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Barbara Honeyman Heath Roll

A WOMAN'S LIFE IN PHYSICAL ANTHROPOLOGY, SOMATOTYPING,  
AND NEW GUINEA KINSHIP STUDIES

With an Introduction by  
Janet Wentworth Smith

Interviews Conducted by  
Sally Smith Hughes  
1989-1991

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Introduction by Janet Wentworth Smith.

Interviewed 1989-1991 by Sally Smith Hughes. The Regional Oral History Office, The Bancroft Library, University of California, Berkeley.



(CURATORES)

**Collegii Smithensis,**

(OMNIBUS HAS LITERAS PERLECTURIS)

(Salutem in Domino.)

*Notum sit quod admisimus*

**Barbara Honeyman Roll**

*pro ejus meritis ad gradum Litterarum Humaniorum Doctoris eique dedimus et concessimus omnia insignia, et jura, honores, dignitates, et privilegia ad gradum suum spectantia.*

*In cujus rei testimonium, literis hisce Collegii Sigillum Publicum atque Chirographum Praesidis apposita sunt.*

**NORTHAMPTONIAE MASSACHUSETTENSIVM,**

die XXI MAIAE anno Salutis Humanae MCMLXXXIX Reipublicae Americanae CXXIII

*Mary Naples Dixon Praesid*

BARBARA HONEYMAN ROLL

DOCTOR OF HUMANE LETTERS

Barbara Honeyman Roll, anthropologist and distinguished Smith alumna. At Smith you majored in history, but nearly 20 years later began graduate work in physical anthropology. Your dissatisfaction with the limits of colleague W. H. Sheldon's method of analyzing the human physique led you to modify his system of somatotyping. Noted anthropologist Margaret Mead soon invited you to classify the residents of Pere village in New Guinea. A 20-year friendship with Mead and four field trips to Pere village followed.

While scientifically measuring, photographing, and categorizing physical types in New Guinea, you made friends with the residents of Pere village. They called you "the woman who always laughs." In 1983 you thanked them for their help by collecting and presenting to them a genealogy of their village. It is perhaps the most complete example of kinship records for any pre-literate community. In the field and in college classrooms in California and the Soviet Union, you have also encouraged younger anthropologists to carry on your work.

For your contributions to our knowledge about the breadth of and changes in human physical types, Smith College is honored to celebrate your achievements and to award you the degree of Doctor of Humane Letters, honoris causa.



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## INTRODUCTION--by Janet Wentworth Smith

Barbara Honeyman Heath Roll and I have known one another almost since our inceptions in 1910. She is my valued friend; we are acquainted as intimately as sisters. But I don't know her as an anthropologist. When she commenced her study of somatotyping, she classified me as an ectomorph, and because I did not know what that meant, or really cared to know, I dropped the subject there and there it stays.

Writing of her now, the adjectives that come to mind are: strong, confident, generous, exuberant, handsome and, best of all, wonderfully articulate. Her home in the Carmel Valley (California) is stunning, filled with artifacts from New Guinea and memorabilia tastefully chosen and displayed. She is hostess to friends and colleagues from around the world. Her cooking is the best. Her life is full and happy because she uses and enjoys every minute of it. A teenager might envy her enthusiasm, her memory, her pizzazz.

Leaving anthropology out of it, I can recall some of the important people in her life, beginning with Carlotta Honeyman, her mother. Carlotta was a Smith College graduate who raised four children on a remote cattle ranch outside Ilwaco on the Washington coast. Early on she recognized the intellectual potential of her elder daughter as she taught her and the others through eight grades at home. From there she guided Barbara to a private high school in Portland, Oregon, and on to Smith. Barbara was like a beacon, reflecting light back to Ilwaco for Carlotta to bask in while she created her own limited academia in a grass-roots community where Grange meetings and summer visitors were the social highlights.

Barbara's father, Arthur, like Carlotta of impeccable lineage, did not take part in these cerebral occasions, but he left Barbara his booming laugh which anyone who has met her will recognize. I remember him as a farmer who returned to the ranch kitchen for dinner too tired to do more than enjoy the company of his family.

I saw Barbara intermittently while she was at Smith and I at Radcliffe. We usually made the long, blissful, carefree trip by train together to and from home. Barbara did well at Smith but did not make waves. It was after she married Harold Seller Hirsch that she blossomed. And how she blossomed! "Hal" was a well-to-do clothing manufacturer in Portland who at one time served on fifty corporate and foundation boards. Barbara accompanied him to Temple, and did her best to keep up with his passion for meetings, skiing, horses. Fred and Janet were adopted, making them a family of four. Barbara named her daughter for me. I asked her to be my daughter's godmother.

As a member of the Portland Junior League, Barbara was required to volunteer at the University of Oregon Medical School, and there she became acquainted with psychology, medicine and, in time, Dr. William Sheldon and somatotyping. Her fascination with the latter subject transcended personal attachments and she divorced Hal.

I lost her during the years after World War II and her meeting of Margaret Mead. We met up again after her marriage to Scott Heath in the 1950s. He had not been long out of medical school at Yale. They toured the West Coast and settled on the Carmel Valley as their home, and Monterey as the place in which to start his practice of ophthalmology. She had gained anthropological knowledge in the intervening years and this with, perhaps, the fact that she was considerably older than he, allowed her to partake in the management of their life together as she had not been able to do with Harold. She ran the office and the home. Scott reciprocated by taking an active interest in her field trips to Papua New Guinea and her association with Margaret Mead. It worked wonderfully well until Scott's untimely death in 1974.

Enter Fred Roll. Literally. In a hotel elevator in New York City. They had known one another while she was at Smith and he at the University of Pennsylvania. They married. And as far as this old friend can tell, are living happily ever after.

Janet Wentworth Smith

Ross, California  
September 1993

## INTERVIEW HISTORY--by Sally Smith Hughes

This oral history of Barbara Roll, known professionally as Barbara Honeyman Heath, was conducted first and foremost because of her contributions to physical anthropology, specifically to somatotyping. Somatotyping, according to her book on the subject, is the process of obtaining or rating the somatotype, the somatotype being "a quantification of the present shape and composition of the human body."<sup>1</sup> Additional reasons for the oral history are her long association with Margaret Mead as colleague and friend, and her impressions of Smith College from the perspectives of undergraduate and recent recipient of an honorary degree. At least these are the ostensible reasons.

There is another reason, decidedly more personal. It hinges on the fact that I have known Barbara Honeyman Hirsch Heath Roll all my life. Literally all my life. The association began on the day I was born. Barbara tells me that on that day she stood in the snow outside the Portland, Oregon hospital where I was delivered. Because of an epidemic of influenza, the hospital prohibited visitors, so I was held up to a window for my godmother outside to admire.

Oral history is a subjective business. It makes no pretense to be otherwise. It is after all the narrator's personal view of history, shaped of course by his or her interactions with the interviewer. When the histories of interviewee and interviewer have been intertwined for three generations, as is the case here, the personal is magnified. (I hesitate to say "glorified.")

One of the strengths of this oral history is in fact its personal dimensions--the comments on family and friends, on growing up on an isolated ranch in Washington state, on student life at Smith, on throwing over the traces to pursue a career. This is a richly textured account of a life, as detailed and factual and impressionistic as we could reasonably make it. It is the story of a woman who, in her own words, did "all the right things without the right motives."

The Wentworths--my mother's people--are part of the early story. Barbara's parents and my grandparents were friends. Barbara and my mother, both eighty-three, are oldest friends. As a teenager, I was reintroduced to my godmother in the 1950s when Barbara and her second husband, Scott Heath, lived in Carmel, California. I remember shelling on Monterey beaches, marvelous meals, the raccoon family which came to

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<sup>1</sup>J.E. Lindsay Carter and Barbara Honeyman Heath. Somatotyping: Development and Applications. Cambridge: Cambridge University Press, 1990, p. 453-54.

the window of their then semi-rural home, and the thunderous laughter of both Heaths--but not much else.

The real friendship began in the 1970s when my husband Trevor and I began regularly to visit Barbara and her third husband, Fred Roll, recently retired as public relations director of SmithKline, now SmithKline Beecham. ("Uncle" Scott died in 1974.) We four discovered our great mutual compatibility. Fred and Trevor ritually disappear into Fred's elegant home darkroom to admire his latest photographs--mainly portraits of professional quality, but more recently platinum prints of flowers. Like Scott, Fred took up photography to assist Barbara in her work with the natives of Pere Village on the island of Manua in New Guinea. The stunning results are displayed throughout the house.

The primary focus of the oral history is somatotyping--its creation and use by William Sheldon, its application by physical anthropologists and physical educators, and the methodological modifications it underwent at various hands, most notably those of Heath (read Roll) and Carter. Barbara tells of her attraction to the field through Sheldon's books which describe his system of classifying human physiques according to a numerical system based on the individual's degree of ectomorphy, mesomorphy, and/or endomorphy.

Abandoning family and friends in Portland, Oregon, she joined Sheldon at Columbia first as a volunteer and then as a paid assistant--a hard-working assistant who made the circuit of college campuses to somatotype women students. Sir Richard I.S. Bayliss, of the well-known British medical family, gives his impression of Sheldon and Roll from the perspective of a colleague briefly at Columbia on a Rockefeller Travelling Fellowship. His account may be found in the appendix.

From her intimate perspective, she is able fully to describe the eccentricities of the method and its creator. In 1953, she abruptly broke with Sheldon after discovering that he was tailoring results to fit his preconceived notions. But Barbara did not abandon somatotyping. She continued her studies of physique, in the process modifying Sheldon's method. In 1967, she and Lindsay Carter, an exercise physiologist at San Diego State University, published a modified somatotype method which corrected some of the deficiencies of Sheldon's scheme.

We hear also of the inimitable Margaret Mead, seen through the eyes of an unabashed admirer, and of John Kilepak, the remarkable chieftain of Pere Village, the setting for Mead's book, Growing Up in New Guinea. "JK", as everyone called him, was one of Mead's young houseboys on her first trip to New Guinea in the late 1920s. He matured into a sophisticated statesman who was equally at home in his chieftain's role and as a participant in the American social scene. He learned the latter

role on two visits to the United States, on each occasion staying part of the time with Barbara.

What emerges from the rich texture of the oral history is a portrait of an extraordinarily energetic, buoyant, and tenacious woman who, without a higher degree, found a scholarly niche on the borders of academia and steadfastly developed it to become an acknowledged expert in her chosen field. In 1989, Smith College recognized her contributions "to our knowledge about the breadth of and changes in human physical types" by awarding her the degree of Doctor of Humane Letters, honoris causa.

But there were obstacles: a confining first marriage, a social milieu which did not encourage women to place career above family, association with a difficult mentor (Sheldon) and a method (somatotyping) which some disparaged, and her lack of formal training in anthropology. How did she succeed? In her own words: "At this point there's no harm in saying that I think that everything that has happened to me has been by inadvertence, chance. I seized the opportunity when it was rammed down my throat, but I am not to be credited with seeking my own goals." Was she really so passive? Her oral history should provide some clues.

In preparation for the oral history, I conducted short background interviews with three of Barbara's colleagues. In October, 1989 I interviewed Lena Godina, a Russian anthropologist visiting the Rolls, and gathered information on Barbara's multiple trips to the former Soviet Union. I flew to San Diego in February 1990 to conduct short interviews with Barbara's close colleagues, Lindsay Carter and Theodore Schwartz. Carter has used somatotyping extensively and, as mentioned above, worked with Barbara to modify the methodology. Schwartz is a cultural anthropologist who worked with Mead in New Guinea.

All eight interviews with Barbara were conducted between November 1989 and February 1991 at the Rolls' attractive home in the Carmel Valley. We invariably sat in the library adjoining Barbara's office which is dominated by the IBM computer which she learned to operate at age seventy. She used it to edit the oral history, meticulously cross-checking and adding dates and names. (Meticulous attention to detail is a trademark.) She added substantially to the account of her family history, using information which a relative supplied after the interviews were completed. We worked together in Carmel one weekend on the almost-final proofing copy, managing to tie up loose ends and to have our usual fine time together. Fred played an indispensable role in taking new and selecting old photographs, and discussing format and presentation.

Barbara has created a data base of the somatotype data she has been collecting over more than three decades, and has given this information, plus genealogical data, to the department of anthropology at the University of Pennsylvania with which she is affiliated. The contents of her correspondence files are destined for the Sophia Smith Collection at Smith College. We are very grateful to Smith College for sponsoring and underwriting the project.

The Regional Oral History Office was established in 1954 to augment through tape-recorded memoirs the Library's materials on the history of California and the West. The office is under the direction of Willa K. Baum, and is an administrative division of The Bancroft Library of the University of California, Berkeley.

Sally Smith Hughes  
Interviewer/Editor

November 1993  
The Bancroft Library  
Regional Oral History Office  
University of California, Berkeley

BIOGRAPHICAL INFORMATION

(Please print or write clearly)

Your full name Barbara Honeyman Roll

Date of birth 4-4-10 Place of birth Portland, Oregon

Father's full name Arthur Honeyman

Birthplace Dundee, Scotland

Occupation Farmer

Mother's full name Carlotta Parker Honeyman

Birthplace Astoria, Oregon

Occupation Housewife

Where did you grow up? Ilwaco, Washington - on a ranch

Present community Carmel, California

Education Smith College, B.A. 1932  
Graduate courses, NYU

Occupation(s) Anthropologist

Special interests or activities \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





## I FAMILY BACKGROUND AND EDUCATION

[Interview 1: November 18, 1989]##<sup>1</sup>

### Maternal Family History

Hughes: Tell me about your grandparents--great-grandparents--on your mother's side.

Roll: Let's start with my grandfather, Charles L. Parker, who was born in 1834. He was alive when I was born, died in 1915, almost eighty-two years old, when I was about five-and-a half. Recently a distant cousin of mine, Lawrence Parker of Portland, Oregon, the great-grandson of one of my grandfather's four older brothers, finished a rather extensive history of the Parker family. He traced the family back to 1653 in Chelmsford, Massachusetts. My great-grandfather and great-grandmother lived in Washington, Vermont, where they raised their two daughters and four sons. Great-grandfather, Eben, operated a sawmill, and lived on a farm. His sons worked on the farm from age seven, and went to the village school for three months in the winter. They continued their education at Newbury Seminary, and then went to a military institution called Norwich University. This was founded by a former superintendent of West Point. I gather they all had some sort of rough equivalent of high school and college educations.

In the 1850s the four sons came west, one after the other. All but one of them came to Astoria, Oregon. My grandfather arrived last in 1855, at age twenty-one.

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<sup>1</sup>This symbol (##) indicates that a tape or a segment of tape has begun or ended. For a guide to the tapes see page following transcript.

My grandfather started a store, when he came out. I gather it was some kind of a general merchandise store which included groceries and supplies. It was on the Columbia River, built out over the water on sort of a pier. There was a wonderful tale--I've often wondered how many of these tales are apocryphal. The story I particularly liked was that an Indian sawed a hole in the floor [laughs] under the store, and came into the store. My grandfather surprised him and confronted him. He realized that he had had time to snatch a large hunk of butter, and that he had put it on the top of his head with a large hat over it. So my grandfather engaged him in conversation near the stove. [laughter] The story goes, of course, that the butter melted, and the Indian retreated. There is no record of what else my grandfather did--if anything.

Apparently my grandfather's store was a very successful operation. I surmise that he also acquired land in Astoria, which he bought and sold advantageously. According to the family history he was the most successful of the brothers. My mother also told a story about his meeting and getting well acquainted with the owner of--I've forgotten whether it was the Emporium or the White House--one of the San Francisco department stores, who asked him to be a partner. He did not do this, as we all know. [laughs]

My grandfather and his first wife were married in 1857, and had eight children, four boys and four girls. Six of them lived to be young adults. I believe their mother died of tuberculosis. I don't know when she died. The two eldest children, girls, died when they were five or six years old--one of them of measles. Belle, who was said to be a talented pianist, died at age sixteen of typhoid fever. The four sons and the youngest daughter, Pauline, lived to be adults. All of them contracted tuberculosis and died of it.

My grandfather married my grandmother, Catherine Helen McGregor, in 1879 when she was twenty years old and he was forty-five. My mother told me that her half-siblings, her mother's step-sons and -daughters were almost as old as she was. When my mother was about four my grandfather moved the family to California in a desperate attempt to save his four sons. All of them died in California between 1885 and 1888.

Let's go back to the musical daughter, Belle, for a moment, because pianos played a rather important role in my mother's life. My grandfather bought the first grand piano to be brought to Oregon for her. It was a Chickering semi-concert grand piano, with a carved rosewood case, with the year 1871 on its sound board. My mother later learned to play on the same piano.

Eventually my Aunt Zola inherited the piano, because my grandfather had already given a Steinway grand piano to each of the older daughters when they married. My mother was a fine pianist--and played her Steinway to the end of her life. I heard her playing Chopin, Schumann, Mozart, Beethoven--and even the piano music of George Gershwin. I made a real effort to learn to play the piano--but never had any real talent. However, I did grow up with a real love of piano music--and eventually of all good music.

I don't know what happened to the youngest daughter, Pauline. I do know that she married my grandmother's younger and only brother, William Farquhar McGregor--and that she died shortly afterward. I particularly remember the family photographs of Pauline and the four brothers--remarkably good-looking young people.

I have often thought about how my mother told me this grim story without making it lugubrious. I grew up thinking of it as a sad tale, but didn't brood about it. I also was aware of the anomalies and complications of family relationships and the reality of split generations. I suppose my interest in genealogies started with my mother's stories of her own family, and of my father's large assortment of relatives.

According to my relative, who reconstructed a remarkably detailed history of the Parker family, my grandfather became the wealthiest of the brothers and in 1879 was listed among the six highest on the tax lists. He set up a grocery and provisions business, and purchased a number of other businesses and property. He served as postmaster for twelve years, was Clatsop County treasurer for several years, and for a time was a partner of the MacGregor family in the Astoria Box Company.

In 1895 he moved to Portland with his family, and lived the rest of his life in a large brown frame house with fifteen-foot ceilings. After his death in 1915 the property was sold to the Unitarian Church, which tore the house down and built a red brick church reminiscent of the churches in New England towns.

About my grandmother Parker--if I understand correctly, she was born in 1859 in Cincinnati, Ohio. I have always found the history of my McGregor ancestors somewhat murky. Recently my second cousin, McGregor Gray gave me a copy of the family tree that indicates that my McGregor great-grandfather was born in 1815 in Scotland. He was married twice, and had four sons and a daughter by his first marriage--all of whom lived to be adults. His wife died, and in 1854 he married my great-grandmother, Elizabeth MacKenzie Kellman. My mother referred to her as a

forbidding, rather hatchet-faced old woman. She had a daughter, my grandmother, and the son I referred to earlier. Farquhar McGregor, my great-grandfather, died in 1860--so I infer Elizabeth MacKenzie Kellman was a widow with a three-year-old daughter and a year-old son.

There is a family legend (and it may be just that) that the McGregors owned Balmoral Castle; and that when Queen Victoria bought it as a royal retreat (which it still is) part of the price paid for it was in the form of some property in Cincinnati, Ohio, of all places. The story continues that great-grandfather McGregor came to America to lay claim to the property. Presumably he died rather a short time after his second marriage and his move to Cincinnati. The widow McGregor migrated to Astoria, Oregon, for reasons I have never known, and at a date I do not know. I think she ran some sort of commercial enterprise, and was regarded as a fairly shrewd and self-sufficient woman. There are also family stories that she was a frightfully domineering mother to her only son, who in his later years was reputed to have greatly disliked her.

I never cease to be astonished at how quickly family histories vanish into the mists of the past. Of course I didn't think to probe these side alleys when potential informants were about.

In any case, my mother, Carlotta Parker, was born in 1881, the eldest of four daughters and a son. Her brother born in 1883, named for the McGregors, drowned at age eight, (as I remember it) poling a small boat. Mother told me many times that her mother never really recovered from the incident.

In all the stories about my grandmother and her brother and his family, my great-grandmother lurks as an [laughing] unpleasant presence. I remember my mother saying more than once, "Sometimes when I pass the mirror, I can see my grandmother." My mother also referred to an Aunt Jean as a disagreeable character--I suppose she was her grandmother's sister. Apparently one or both used to tell hair-raising fairy tales to my mother and all the other children who were around.

My ninety-four-year-old second cousin told me that she was told that when the old lady (who was her grandmother) died, her mother and father were playing cards with friends, when the telephone rang. Uncle Will went out to answer it, presently returned, and said, "Well, the old lady's dead; now who's dealing?"

Sometimes when I do something exceptionally disagreeable, I think about her and wonder about the genetics of character traits. I suppose she couldn't really have been as bad as all that. However, in a family album, there is a photograph of her that suggests she really wasn't a very sympathetic character.

My mother talked a good deal about the period in her childhood when her father took the whole family to California, hoping that the California climate would be better for his grown children who had tuberculosis. They lived in California for several years in the 1880s, years that my mother remembered vividly. I think they went to Santa Barbara first. I believe they lived in Santa Barbara for a while. Next they moved to Ojai, where my grandfather bought twenty acres or so.

I was always greatly intrigued by my mother's recollection of going out on the roadway near the house and picking up chunks of what afterwards turned out to be petroleum. [laughs] To start the fires with. In the light of later history, it is obvious that there were untold fortunes under that twenty acres.

Hughes: Which they then sold.

Roll: [laughing] Which they then sold for a modest sum. I grew up on these stories.

Hughes: What was your mother's father doing to support all this?

Roll: I never really gave it much thought. However, in the 1880s my grandfather was in his fifties. According to the history of the Parkers that I referred to earlier, I infer that my grandfather was at least "well off," and probably was living off already-accrued income. I never heard about any business activities in California. That doesn't mean he wasn't engaged in all sorts of interesting enterprises. My impression is that he was prosperous, but he certainly was not a tycoon by any stretch of the imagination.

In any case, one by one, these beautiful young sons and daughters died.

Hughes: Did people talk about the emotional toll?

Roll: Oh, yes.

Hughes: Imagine losing such children.

Roll: Yes, imagine it. And then his only son by the second marriage. Which almost destroyed my grandmother, I gathered.

My mother told me her mother was greatly concerned about health. She said she could remember being told to stand in front of an open window and deep-breathe when she was a child. She also told me her mother was a follower of Bernard McFadden.

Hughes: Now, who was he?

Roll: Actually, I don't know whether it's Bernard or Bernar. He was an early physical culturist, great exercise, muscle-development boy, and with all kinds of ideas about fresh fruit and vegetables. Mother said her mother was fifty or sixty years ahead of herself on her ideas about balanced diets and sensible nutrition, which is interesting.

But going back to California--my grandmother did not like California. They must have been there five or six years, I think. My mother was eleven or twelve when they went back to Astoria to live. She said when the fog came in in Santa Barbara, she hoped it would rain, and it never did. I complained to her often about how they made a very poor choice when they returned to Astoria. But Grandmother Parker wanted to go back to Astoria, for heaven's sakes. So they did, and after a relatively short time, they moved to Portland. I think they moved to Portland when my mother was about thirteen.

Hughes: Do you know why?

Roll: No. [laughs] I have no idea. Perhaps Grandfather thought the schools were better there. That was probably it. I suspect that he was much more concerned about the education of his daughters than I ever heard about. He must have been. A man who would send four daughters to Smith College had to have it on his mind.

Hughes: So that meant giving up his thriving business and reestablishing it in Portland?

Roll: Well, I guess he sold it. By the time he went to Portland, he was in his sixties, and I should think that some of his drive to bigger and better things might have worn off. Of course, after the death of a wife and eight children, I think he might have slowed down a little bit--even though he was a rugged man.

I'm sure he continued his real estate maneuverings, and I think he continued owning property in Astoria. I remember hearing something about how he knew of someone who wanted a piece of property; he bought it, and then sold it advantageously. When he died at age eighty-two in 1915, he had a considerable estate. Probably a couple of hundred thousand dollars. So, when it was divided among the four daughters, my mother still had a reasonable

inheritance. Part of the inheritance was property that wasn't worth a whole lot. In any case, I grew up with the impression that my mother's family was pretty prosperous.

Hughes: Was she raised to be a lady?

Roll: Yes, I would say so. She thought of herself as a lady. I've often thought about her attitude toward social status, and I've often wondered about the organization of social position in Portland. It was perfectly clear the Ladds and the Corbetts and the Failings were "upper drawer." I certainly grew up so that by the time I was an adult, I thought of myself as being a little snobbish. Now that I look back on it, I wonder why. [laughter]

Hughes: Well, you probably picked it up from your mother.

Roll: I obviously picked it up from my mother. In fact, I think that my father, Arthur Honeyman, did not indulge in that sort of thing. [laughing] He was better mannered.

Hughes: I know appearance was very important to my own grandmother. And was that true of your mother?

Roll: Well, I think it had been, but by the time she had spent a few years on that ranch, she was a little less interested in appearance [laughs] than just surviving. Well, a good example: your mother [Janet Wentworth Smith] certainly would know about the Malarkeys. Mary Malarkey Wall's mother was a Holman, and her father was a butcher, and they lived near my grandfather's house, which was on 12th and Salmon Streets, where the Unitarian Church now is. I can remember my mother saying, when I identified Mary Malarkey as a contemporary of mine, "Well, her mother's father was a butcher." [laughs]

Hughes: Took care of her.

Roll: Took care of her. [laughing] And sometimes I think about my utterances as they would affect the collateral Malarkeys and so on of this generation. But those things make an indelible impression, and I'm sure it has willy-nilly influenced my thinking. I know I still think that way somewhat, and contemplate how people behave, and ponder how their social inheritance affects their own behavior. I always found Mary Wall's [laughing] behavior left something to be desired. This is interesting because when we talk about your own grandmother [Imogen Stuart Wentworth]--I remember I always thought of the whole Wentworth family as genteel, well mannered, and very much acceptable anywhere, but I was perfectly aware this was not true of everyone.

To paraphrase what my mother said, in Portland it wasn't so much what you had as who you were. She gave as examples various members of the Failing family, who were old, established, admired people. Some of them had little or no money--and some of them had a great deal. My mother said money itself never affected their status among their friends and in the community. Which I think is a very important thing.

Hughes: I understand, the little I know of Portland history, that many of those families had New England origins. Do you think that had a bearing?

Roll: Oh, of course. I think it had an enormous bearing on it. Almost all of them, I think, had New England backgrounds. I certainly assume that that was true of the Failings.

In any case, it was clear to me that my grandfather and his family became very much an accepted part of the Portland scene. Yet they weren't actively social in the way that lots of people are, probably because my grandfather was much older. Well, it's odd; I don't remember my mother ever telling about a party at their house. Well, I don't know why. When they were high school age, you'd think they would have, but I don't recall anything like that at all.

In any case, when the Parkers moved to Portland, my grandmother's brother and his family remained in Astoria. Meanwhile, he had married a Swedish woman, and they had three children--two daughters and a son. The two daughters were just about the same age as Mother's youngest sister, Zola. To this day, Lenore talks about going up to visit the Parkers in Portland. It was obvious that they always felt they stepped up a notch in some way or other. I don't mean this is what they said, but it was implicit. Which is sort of fascinating.

Now, where do you want to go?

### Paternal Family History

Hughes: Maybe you should pick up on your father's side.

Roll: Yes, I think so, because otherwise I'll get off into the McGregor pasture. [laughs]

I know nothing about my grandmother Honeyman's parents. I know about her siblings, but I don't know about her parents. I



know about her maiden aunt, Barbara Ritchie, for whom I was named. She was a schoolteacher. She lived with my grandmother's sisters in Seattle after she came to this country from Scotland. I don't know anything about my grandfather Honeyman's forebears. I know something in a general way about the kind of people the Honeymans were.

My grandmother came from Glasgow, and I gathered without really knowing, that she was pretty and desirable, and regarded herself as, well, certainly socially acceptable in Glasgow. My grandfather came from a town called Springfield in Fife. Fife is that part of lowland Scotland across the Firth of Forth from Edinburgh.

According to a book about the Honeyman family, which was put together by a distant cousin in Princeton, New Jersey, my grandfather Honeyman told him that his grandfather and great-grandfather had a grant of land from one of the Scottish kings who lived in Falkland Palace in Fife.

My grandfather also said that his grandfather and his brothers were handloom linen weavers, and that some of the family were masons, who were involved in the building of the principal mansions in and near Cupar and Springfield.

My grandfather was educated at Madras College in Cupar, Fife. According to the Honeyman historian he was in business in Dundee and Glasgow until 1881, when he emigrated to Portland, Oregon. In Portland he went into business for himself--importing and jobbing woollens, linen, and "trimmings." He was said to have a fine reputation as a businessman, and was regarded as a man of "high standing and much culture." He was active in the Calvary Presbyterian church, where he served as the "ruling elder." He also was a charter member and founder of Waverley Country Club, which for as long as I was familiar with the Portland scene, was the elite country club.

The Honeyman book also reported that my grandmother, Jessie Honeyman, was president of the Young Women's Christian Association in Portland, president of the executive board of the state YWCA, and active in the affairs of the Presbyterian church. She also founded the women's Wednesday Morning Art Class, and was prominent in the garden club.

Incidentally, there were a great many people named Honeyman in Fife, presumably all related to one another. When we went to Scotland several years ago we drove to Springfield. I asked where the old cemetery was in Springfield. It is full of Honeymans. In about fifteen minutes we found twenty Honeyman graves. Also in St.

Andrews, the town of the University of St. Andrews, there are many Honeyman graves in an old cemetery. In other words, it is not an uncommon name.

##

Roll: I don't know what my Honeyman grandparents were doing in Dundee and Glasgow before they came to the United States. I do know that my father was born in 1880 in Dundee. When he was about two and his older brother was perhaps four the family left Scotland. I think they came to New York by ship and then came by train to Portland. And I do not know why they chose Portland. I assume that there was some connection. Of course there was a large family of Honeyman cousins (probably second cousins and more remote) in Portland. They were the family who founded Honeyman Hardware, which was a large and successful business for over fifty years.

My father grew up in a house on northwest Flanders Street. He went to school in Portland until he was about seventeen, when his parents sent him to school in St. Andrews in Scotland. I remember being intrigued by the idea of his going to Scotland on a sailing ship. The story was that the ship's captain was a friend of his parents. They took him along as a privileged passenger on what I suppose was a merchant ship.

He went to what must be a between-high-school-and-college branch of the university at St. Andrews, called Madras College. He was there for a couple of years. I get the impression that that was the end of his education. He did not go on to the University of St. Andrews proper. I've long been tempted to say he went to the University of St. Andrews. He didn't quite. When Fred [Roll] and I were in Scotland a few years ago we saw Madras College, which is actually on the campus of St. Andrews.

Anyway, he had wonderful experiences on his, at least two, trans-Atlantic sailing trips. They left from Portland and went around Cape Horn.

On one of these trips, they were becalmed on the Sargasso Sea, for sixty days or something ridiculous, and were given up for lost. That and the other story that always entertained me in childhood, which my father occasionally told, was that he started out (on what I suppose was the first trip) with the privilege of eating with the captain and his wife. All went well until one day when the sea was unusually rough a flunkey came in with a tureen of soup which he put down in front of the captain's wife. The ship gave a lurch, whereupon the tureen sailed down the table and emptied itself in the captain's lap. [laughter] And my father

thought that was uproarious, and with, I am sure, a typical Honeyman laugh, he disgraced himself over it and was banished for the rest of the trip. [laughter] Thereafter he ate with the sailors. A fine family legend.

He told stories about learning to climb up on the rigging, which he thought was great sport. He also acquired a wonderful sailor's vocabulary of profanity. [laughs]

Hughes: Which he treated you to?

Roll: Not intentionally, but being a listener, I heard it all, which my mother did not much admire. I don't know why, but my father's profanity never struck me as profane, but instead I found it very funny.

Hughes: Was your mother rather proper?

Roll: Proper doesn't quite fit. I'm trying to think of a better word. She certainly had a sense of propriety. She was anything but pious, but she really didn't approve of swearing. I can remember vividly my father coming in one day and saying, "For Christ's sake, Carlotta, are you going to argue with those children till hell freezes over?" [laughs] And Mother said, "Arthur, the children!" And he said, "Damn the children!" [laughs] Which didn't offend me in the least; I just thought it was amusing. She didn't have a lot of influence on that aspect of my father. There was something--a kind of a gaiety about his profanity. Never implied disrespect of the deity, rather what I think of as a characteristic agnostic view. I don't know that he ever thought of articulating his attitude. I think of it as a matter of not being able to profane that which does not seem sacred to the "profaner."

There were two family deaths that profoundly affected my parents' young adult lives. First, about two months or six weeks before my mother's graduation from Smith, her mother died. A year or so later my father's father died.

I have often been puzzled by part of my mother's account of her mother's illness and death. She was a remarkably stoic, truth-facing sort of person, but she sometimes turned to euphemisms and evasion in the case of events that seemed too unpleasant to contemplate. She told me my grandmother died of a benign tumor of the stomach. I am convinced it was a cancer.

Hughes: But nobody acknowledged this?

Roll: Yes, nobody in the immediate family acknowledged it. My cousin Lenore Gray told me she had grown up being told that Aunt Kate died of a cancer. And the McGregor part of the family apparently was fairly embittered about this. Uncle Will was very fond of his sister Kate, and he thought that my grandfather was unfeeling and unwise. There was an old doctor in Portland whose name I can't remember--McKenzie, I think. Anyway, I think that surgery was discussed and my grandfather refused it. At least that was the way it was put. Now, heaven knows what really went on. I certainly couldn't even guess, but she died of it, whatever it was. Somehow I can't imagine that any intervention would have done much for her. She died in 1903.

### Parents

Roll: Meanwhile, my mother and father knew each other very well. I don't know at what point--I think probably the year after she got out of college--they were engaged. In 1904, my grandfather Honeyman died of a sudden-death coronary at age fifty-four, and left the business in a bit of a mess. I gather that my father dropped everything and tried to keep the business together. In the meantime, my father's brother, Bruce, who was Blake Honeyman's father, had a scholarship to MIT. My father was devoted to him and regarded him as a very gifted person, which he was. So he thought the most important thing was for Bruce to go on with MIT. I think things were left so that my grandmother interfered with the business. A business head, she didn't have. [laughs]

The end result of all this was that in rather short order, Honeyman and McBride were a dream of the past. I've forgotten what happened to Mr. McBride, except he also had a store, or an interest in a large hardware company in Seattle, which was actually owned by cousins of my father, whose mother was my grandmother's sister. Anyway, very soon my grandmother was without funds, a dependent. [laughs] So my mother and father were engaged for four years.

Hughes: Because of no money.

Roll: No money. I don't know how they finally solved that problem. That's something that I never did much research on. I do know that with some assistance from her father, they bought the ranch at the mouth of the Columbia River in Washington.

Hughes: Now, why did they choose ranching? Neither of them had that kind of background.

Roll: [laughing] I haven't the slightest idea. I think it had something to do with an idea that young people of recent generations have also had: that they could improve the property and sell it at a profit. I don't even know whether they really thought they could do that--sell it for a profit and go back to the city.

Hughes: With a pot of money.

Roll: With a pot of money. And what my father thought he was going to do in the city, when he had that pot of money, I cannot imagine.

Hughes: Was there a ranch building in the set up?

Roll: There was an old house. The original place was 640 acres, which was a homestead. It was known as the Hennessey Homestead. It had a house which was built in the 1880s, of which I have photographs. It had some outbuildings and a barn. At least I suppose they were already there. I have always assumed that they bought it with the large barn and small buildings. My father conceived the not exactly brilliant idea of having a dairy farm.

Hughes: What had been there?

Roll: I don't know. Maybe it had been a dairy farm. I have no idea. If I ever did, I've forgotten. Anyway, there were 640 acres to begin with. I don't know how they acquired another four hundred acres. The whole ranch, when I was growing up, was a thousand acres of tideland around the margins of what we called Shoalwater Bay, which really was part of Willapa Bay. It was very "shoal", all right. At low tide it was mud flats as far as you could see. Went up to your knees if you got into it. The ranch was a narrow piece of tideland along a margin of the bay. I suppose it was two miles from the house up to the end of the property, which was known as Porter's Point. I guess that the land that was bought additionally had belonged to someone named Porter.

The history of the land itself is rather fascinating. I don't know at what point my grandfather got mixed up in it, but I know that he made part of the payment on the original ranch. I remember this meant that when he died, my three aunts owned a small share--no great advantage to them, obviously. My mother and father eventually bought them out, so that in the end of the history of the ranch they owned it free and clear.

I think one of the attractions of that particular piece of land was my grandfather's prior interest in a nearby large parcel. I am not clear about the details, but my recollection is that my grandfather's nephew, Gelo Parker, borrowed money from my

grandfather to buy a piece of combined timber and tideland along what is known as Bear River (a small river). He was unable to repay my grandfather, so he lost it, and it became a part of my grandfather's estate. Actually, that land was in the family for over a hundred years--and was sold within the last five or six years. I can't remember now how many acres were in the parcel, but there must have been six or eight hundred, a good piece of which was virgin timber. It never made anybody rich. Marginally richer. [laughs] Very marginally.

My mother and father had thought of going to Tillamook [Oregon], which probably would have been much better. The tie that bound them really was my mother's origin in Astoria and my grandfather's interest in the property, which I suppose he assured them was a good thing. So they lived on it for forty years. Or thereabouts. Anyhow, from a purely practical point of view, it was not much of a success.

As I mentioned, my father started out with dairy cattle. He had never milked a cow in his life. So he thought, "Well, there are hired men for that." The hired man lived in the little "bunkhouse" near the barn. As I remember it, there also was a shop with an open hearth, where my father taught himself to be a blacksmith, with an anvil and all the necessary tools. He used to remake and shape parts for broken-down mowers, rakes, plows, farm wagons. He was very clever with his hands. There was a tool shop next to the blacksmith shop, which he kept in immaculate order. If any of us had misplaced a screwdriver, we thought he would chop our heads off. Actually his look was enough. There also was a room next to the tool shop, where the milk was separated. About fifty feet beyond the outbuildings, there was a large barn. It was really large. There were horse stalls on one side, and rows of stanchions for the cattle on the other three, all under one roof. There was a sort of a basement where I remember at some point they used to have pigs. There was room for, I suppose, up to sixty cattle.

Hughes: Was anybody else dairy farming in that area?

Roll: Oh, yes.

Hughes: So it wasn't a crazy thing to start doing.

Roll: Well, it was crazy for them--but yes, there were other dairy farms. However, geographically, you couldn't have picked a worse place. [laughs] My grandfather's insights about Astoria didn't seem to apply to our ranch. He had said about Astoria, "It has no hinterland."

It was nine miles across the Columbia River to Astoria, which was a ferry ride of thirty or forty minutes. All of the public transportation was by narrow-gauge railroad, which ran from the ferry up to the north end of the peninsula--which was about forty or fifty miles. There were boats that came down the river from Portland and across the river from Astoria. So there was shipping by water, by boat or by ferry, and then by local rail on the other side. There was no rail out of the peninsula area at all. And going north there were roads that made your hair stand on end. [laughs] It was isolated and difficult until about twenty years ago, when the bridge was built across the Columbia River from Astoria to the Washington side. I should think that if one were really shrewd, it would have been obvious that the North Beach Peninsula was a dead end--except as a summer resort. It was an absolutely idyllic place to grow up, and I wouldn't have traded it for anything in the world.

Hughes: Well, why don't you talk a little about life on the ranch?

Roll: First two anecdotes about my father. He had the hired men to milk the cows. I've forgotten whether he had one or two. In my memory there was always one around. In any case, hired men were always going and coming, so my father had to milk the cows between hired men. As my mother described it, his arms were swelled from fingertips to elbows. I learned to milk cows later, and I know what it would be like to suddenly be confronted with eighteen or twenty cows to milk twice a day.

The other anecdote was the first time my father saw a calf born, he staggered into the house and fainted. [laughter]

Hughes: How did he get the milk out to sell?

Roll: Well, I guess that he drove the horse and buggy out to the main road, where somebody picked it up. This was all finished long before I came along. I think that it must have been picked up. The road from the main road--and it was some road--was two miles from our house, and all the transportation was horse and buggy or horse and wagon. I suppose they had a wagon as well as a buggy. Anyway, my father, within a reasonable length of time, realized that that was a poor arrangement, so he bought an Aberdeen Angus bull. As a good Scotsman, [laughs] he got a Scottish bull and bred him to his dairy cattle. So the offspring of his dairy cows were Aberdeen Angus hybrids. I remember growing up and reading, or more likely, being told that calves that were fifteen-sixteenths Aberdeen Angus could be regarded as purebred. That was the criterion.

That piece of information probably can be credited with sparking my interest in genetics, in genealogy . At least it fitted in nicely with my general curiosity. Also of course I had the kind of a mind that loves to keep track of things and to see relationships among various pieces of information. I knew every animal on the place and gave each a name. By the time I was six or seven, I had them all pegged. Before that, my mother, with her wonderful unbiological approach, gave all the dairy cows the names of Greek goddesses and other mythological characters. She even named them so there was at least one cow for each letter of the alphabet. [laughs] We had a Penelope and a Ceres. There were some names outside of mythology. For example, one of the horses was Hedda, for Hedda Gabler in Ibsen's play. [laughs] I remember one of the cows was Xantippe, for the wife of Socrates--also not strictly mythological.

I gave them other kinds of names, and I knew exactly who was whose mother and offspring. My father certainly knew which ones were good examples of the breed that he was working toward. So he would say, "Now, whose calf is that?" and carefully save the ones that showed the best characteristics. Except that I don't think he really successfully got rid of some of the rather poor examples. If they were female, he couldn't bear to kill them.

I was born eighteen months after my mother and father were married. They were married in 1908. I was the eldest. The four of us were born within four years and ten months. And yet, you know, there were twenty-two months between me and my brother Parker; there were seventeen months between Parker and Alan, who was born in June of 1913. And there was a year and a half between Alan and Catherine, who was born in January 1915.

I don't remember an awful lot about the first five or six years. I have very vague recollections of being very small, and who knows whether you remember from being told, or remember from hearing the stories. I think we all remember what we have heard over and over from the beginning. Some of us recognize it more honestly than others. However, a very early, untoward incident in my childhood still seems clear to me. We were visiting a family who had a summer house in Seaview, a nearby beach resort. They had a pony. I had always had a tropism for animals. If it had fur, [laughing] you couldn't keep me away. I wanted to make friends with that pony, and instead of attacking him from his front end, I walked up behind him. He planted his foot right on my forehead near the temple, which, I am told, could have been fatal. I was left with a crescent-shaped scar which is still discernible, but not conspicuous. It was vivid for all my childhood and most of my adult life.



Hughes: How old were you, do you think?

Roll: Well, it was summer. I was probably three, because I was born in April, and I'm sure this must have been in the summer, the season for city people to spend the summer at the coast.

Hughes: What did your family do in that case? Or in any medical situation?

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Roll: Oh, yes, there was a doctor, Dr. Paul. They may have reached him by telephone, although it was many years before we had a phone on the ranch. Dr. Paul sewed up my head. I'm pretty sure I don't remember walking up to the horse, but I do remember being in the kitchen with my mother the next day, and her telling me to be quiet, not to run around. Anyway, it was impressed upon me that I was in a delicate condition [laughs] and to stop roaring around in my normal fashion.

I vaguely remember when my sister was born.

Hughes: All that occurred on the ranch?

Roll: No. Each of us was born in my grandfather's house in Portland.

Hughes: Where your mother went some time before the birth?

Roll: I don't think very long before.

Hughes: So there was no lying-in during the late stages of pregnancy?

Roll: Oh, no, no. We were delivered, all four of us, by a woman named Dr. Esther Pohl Lovejoy. I can't remember now what her history was, but she left Portland and she became a very well-known practitioner. It seems to me she was involved in something international. She died in New York, oh, within the last twenty years. She lived to be a very old lady. Her obituary was in Time magazine, so, obviously she was well known.

Hughes: And she was an obstetrician?

Roll: She was an obstetrician. And must have been a very young one when we were born. My mother had a nurse whose name was Mary Morrison, and I remember her vaguely--a nice woman. And I remember her in connection with my sister's birth, because I was fussing about being neglected. I imagine that my mother needed extra attention. With each childbirth she had terrible hemorrhages. Mary Morrison and Lovejoy must have been very good.

Mother

Roll: My mother had varicose veins. I don't know whether her doctor and nurse realized it, but they were not only in her legs but invaded her pelvis. Eventually she almost died of varicose hemorrhage in her pelvis, after a hysterectomy. When my sister was born, Dr. Lovejoy said, "No more children, dear girl. That's enough." How mother dealt with that, I am not entirely clear.

Hughes: It was not a subject of discussion.

Roll: Well, it was alluded to, and I think that what she used was Lysol douches.

Hughes: Oh.

Roll: [laughs] "Oh" is right. Which did not stop her menstrual hemorrhaging. I can remember that well. I can remember her getting caught and leaving a trail of blood across the floor.

Hughes: Was she pretty up front about those things?

Roll: She was neither up front nor totally candid. She was reasonably candid, but there was not a lot of discussion. I can remember, for example, in the early 1920s, there was a woman named Conover, (what the Conover connection was, I don't remember). But I can remember overhearing my mother and Mrs. Conover talking about Kotex, which was something new. Up to that time it was all these awful cloths that they washed out.

Hughes: Yes, I remember Mother talking about that. When would that have been, Barb?

Roll: I think this was about 1922. Well, my mother had told me about menstruation in plenty of time, and then I didn't menstruate until I was sixteen and a half. [laughter] And when I did, she was away and my father had to deal with it. [laughs]

Hughes: So much for her directions.

Roll: Which I don't remember anything about. He obviously handled it beautifully because I don't recall. I just know that he was the one that was there.

Hughes: By then he was used to watching calves be born.

Roll: And by that time I had assisted him in difficult births of calves, and so on.

Hughes: So this was just another part of life.

Roll: So this was just another part of life. I remember much more vividly, on an occasion when my mother was in the hospital. I had very long hair. I couldn't braid it myself, so my father had the job of brushing and combing my hair. I learned in a hurry to do it myself. [laughter] I did not care for his attacks on it.

Hughes: Getting back to your mother and her bleeding. She presumably was doing a fair amount of work around the house, if not around the ranch.

Roll: Oh, yes.

Hughes: Did she go to bed during her periods?

Roll: No. Mother had a lot of things wrong with her. Like me, she had a lot of vitality and she was strong. Well, I'm taller than she was, so she was a little bit more compact. She never got heavy. She was a bundle of energy. But she also wore out, and this excessive bleeding led to a lifelong struggle with anemia. And in the end, when she died, she had some kind of a blood dyscrasia that was never diagnosed. They did every imaginable test. I remember Bud Selling (Dr. Laurence Selling), who was the professor of medicine, saying, "We cannot diagnose it. All I can tell you is that it's a blood dyscrasia. It's not pernicious anemia, and it's not leukemia." This was 1956, so although they knew a lot by then, there also was a great deal they didn't know.

Hughes: Tell me something about her as a personality.

Roll: You know, I think that's going to be the most difficult thing because there was so much of her. I think that her immediate family, other than I, had a way of idealizing her and really not telling you anything about her. She and I were very, very close when I was a child--well, up to the time I was out of college. For the rest of her life, she and I were a little out of synch. Not in an uncivilized way, but there were a number of subjects we did not agree on.

Hughes: In what way?

Roll: For one thing, she certainly was conventional. Although she said very little she did not approve of my divorce. No question about that. She was very protective of me if anybody else brought it up. Very loyal. She was a very discreet person. She didn't tell

her friends or acquaintances much of what she knew about anything. In fact, she bent over backwards not to. She was not a gossip, but as I grew up, she told me everything. I mean, she recited the stories of everybody she knew in Portland and elsewhere, so that I grew up on a rich treasure of true life stories--wonderful.

Hughes: Do you think some of that was because of the isolation? I'm not trying to demean your relationship, but she couldn't have had a wide circle of women friends on a daily basis, anyway.

Roll: No, not at all. But even when she did have people around her, she didn't tell them anything. She played her cards very close to her chest. Except with me. I think she probably told me more and talked more freely to me than she ever did to anyone.

Hughes: Including your brothers and sister?

Roll: Including my brothers and sister. It's clear from my conversations with her, that she didn't talk that way to Catherine. You may have already discovered that Catherine has a tendency to chest her cards too. Maybe it didn't show in your contacts with her, but she's very discreet. I think these things are genetic. I think it is likely that our temperaments are, like so much else, laid down in our DNA.

Hughes: What was it about you, do you suppose, that made her willing to let down her hair?

Roll: I think it was probably my eagerness. I was so full of curiosity, and I listened to her. Very early I became interested in interpersonal relations, in people's behavior. She made it plain that there was a difference between communication and gossip. Now, this is my interpretation. I don't think that she formulated it. I'm formulating it. But I think that this was characteristic of her.

She was a very romantic person. She was musical. She was very sensitive to what she read; she was an omnivorous reader. She was not a student; there is a difference. And she was a daring reader. She read James Branch Cabell when he was regarded as risqué if not pornographic. [laughs] And I've forgotten what all else. She had a fine sense of ulterior motive in people. She was very observant of what people said and what they meant. She had a fine critical appraisal of character, and I can remember her talking about people being insincere and disingenuous, and not meaning what they said. How she disliked those qualities!

Hughes: Did she understand you?

Roll: I think she did, yes. I think she pretty much understood me. She was not always in sympathy with what she understood, but I don't think she missed much. I never felt misunderstood. I think I was a little rough on her; I was critical of her wasting her time playing bridge with all those silly women.

Hughes: As a child, or a young person?

Roll: No, as an adult. This was along toward the end of her life. I think that was probably unkind; I think I should have let it be. But I always wanted people to keep on being curious.

Hughes: My mother has implied that you of the four children were the "golden girl," so to speak, and I'm not sure whether she was talking about just in your mother's eyes or--

Roll: I think in my mother's eyes, yes. I think that's true, and I think it troubled my mother, because she wanted to be evenhanded. She used to always say, "I love you all equally." This was a family pronouncement. But I would say that in our childhood--well, let's say up to the time I went to high school, because I never went to school at all until I went to high school--we were a blissful family and regarded ourselves as a happy family and happy children. As hard as my mother and father worked, there was something marvelous about their relationship to each other. And yet they were as unlike as two people could be. She was musical and a great reader; my father read the Saturday Evening Post and the Aberdeen Angus Journal [laughs] and thought his own thoughts.

Hughes: Was he a dour Scotsman?

Roll: No, he was not dour. No, he was funny and charming, and had a laugh you could hear down to the fortieth acre, and a wonderful sense of humor. He was a real charmer. But he had a tin ear for music [laughs]. He greatly admired my mother's gifts and her musicality. He never got cross about that.

Hughes: Were they outwardly affectionate?

Roll: Oh, yes. Oh, very. Probably when I was a teenager, I remember realizing the physical bond between them. I don't know precisely what I overheard or how I sensed it, but I know that I heard a lot more than they had any idea I did. I was a light sleeper, and I had a room near theirs. I could hear [laughing] everything that was going on, and hear their conversations. I don't remember specific conversations, but I remember thinking that I was keeping track of things much more than anybody else was. I don't think my siblings were in that kind of communication, and I don't think this struck them, particularly.

Hughes: Well, given the romantic nature of your mother, do you think she was happy with life on the ranch?

Roll: She was not discontented, certainly. She did not resent it. I don't think that she regretted it. I think that she regarded it as an excellent childhood for us. She took great pride in the fact that we were all exceptionally healthy. I think she was happy. What does one mean by happy?

Hughes: Well, you would have been aware, I think, if she'd been pining to return to Portland.

Roll: No, I don't think she was.

Hughes: What about stereotypical roles? Would you say that she was the mother and housemaker, and your father was the decision maker, fulfilling the stereotypical role of husband and wife?

Roll: No. I think the decisions were a consensus.

Hughes: Was that unusual in that generation?

Roll: I really don't know. I've never thought about it very much. I think that part of their relationship and respective decision making had to do with the fact that my mother had an inheritance, and one of the things that I was acutely conscious of as a child was that they never, never, never quarrelled about money. I don't know how I knew that other people did. Maybe I read it.

Hughes: Was that somewhat because there was always enough money?

Roll: It was because when there was something extra, like medical expenses and eventually my going to college, it was mother's inheritance that covered things.

Hughes: And was that just sitting in a bank?

Roll: I don't know. This was something she was close about. I never got an accurate picture, but I can infer that there was always some income from rentals, from various things, and also there must have been some cash somewhere, because I have the impression that by the time I got through college, there wasn't any more cash. Now, I'm not even sure of that. I'm very fuzzy about the whole thing, but I do know that, well, there was income from the ranch. My father raised the beef cattle and he butchered them himself, and sold them first just locally to the local butcher. Later he took them across the ferry to a butcher in Astoria. Still later, he sold some of the steers on the hoof. I think there was a time

when he took some by truck to the stockyards in Portland. This was after I was away from the ranch, so I'm a little fuzzy about it. But the ranch did yield some income, and they managed to make ends meet. I inherited \$10,000 from my father, which he had left in trust to my mother. So I inferred that my father had some money of his own, which he invested, perhaps in stocks. I have no idea why this was separate from my mother's estate.

I think that my mother's intellectuality is very important. It was the kind of intellectuality that is not necessarily creative--and I don't quite know how to differentiate those two. But it was scholarly. She was extremely interested in words; she had a phenomenal vocabulary. I find myself using words which I would never, I think, use or have used if I hadn't been introduced to them in childhood. She used Latin a lot; she used French a good deal. And she was a fine musician. A borderline concert pianist.

Hughes: Did she play regularly?

Roll: She played regularly, but she almost never played for people outside. I tried to learn to play the piano, but I just don't have the ear. She played Chopin most beautifully, and I can recognize any Chopin instantly, even though my ear is not good.

My mother had extraordinarily catholic taste in music. She played Bach, which I always hated, and still do. [laughs]. She went through the whole routine; she fell madly in love with George Gershwin's music. She spent a remarkable amount of time trying to learn Gershwin's piano concerto. She also played Rhapsody in Blue. She was crazy about jazz. Imagine this, in the fifties, when she was in her seventies: When she and her sister were in Palm Springs in the winter for several winters, she went to hear Nat King Cole. Really extraordinary catholicity of taste.

Hughes: You said that your father appreciated this side of her, but did he listen to music with her?

Roll: No, not really. She really never played as a performer. I think she knew I liked to hear her. She played for her own pleasure, and the satisfaction of keeping somewhat in practice. None of the four children were musical. I practiced on the piano faithfully, but it was obvious to my mother--and to me--that I did not have a good enough ear to play well.

Mother founded a music group, known as the Euterpe Club, named for the Greek muse of music. There were a fair number of women in the community who sang remarkably well. They had monthly gatherings at which some of them sang solos, some sang in chorus,

part songs and so on. Mother usually accompanied them on the piano. She had a good ear, and was able to change the key to accommodate various voice ranges.

She also founded a study club, known as the Mentor Club. The members took turns giving papers on various subjects, like the paintings of Raphael, or the art of Japanese prints. Mother helped them find library references from the county and state libraries--and often from our own bookshelves. The Mentor Club is still in existence--about fifty years old.

Hughes: This was all women?

Roll: All women. About fifteen of them, I think. Some of them were really quite bright.

Mother was very fond of Greek mythology. I learned the principal figures in Greek mythology from her and grew up with some appreciation of them.

These club activities of my mother's began about 1928 or '29. About the time I went to college. She is still remembered as the intellectual leader down in that community--the North Beach Peninsula. There are still people who knew her and remember her as a very important part of the community. Both my parents were looked upon as important members of the community and as the stimulus for unusual activities.

Incidentally, we didn't finish that story about looking after Zola. Zola met, fell in love with, and married a man named Jack White, who was a young lawyer. They were married in our house on Council Crest [Portland] in May of 1917. He went right into the army; maybe he was already in it.

I know they were stationed for a while down in the southeastern corner of Oregon--Lakeview. As soon as Zola was married, we went back to the ranch, and stayed there.

In about 1945, my parents sold the ranch and moved to Gearhart.

Hughes: The ranch was too much work?

Roll: By this time, my father had serious angina and it was obvious that he ought not to do so much heavy physical work. I don't think that the ranch earned a great deal financially, but it was enough so that they were able to build a house in Gearhart. My father died in early 1950, so they had about five years there.



Hughes: When did your mother die?

Roll: She died in 1956. She lived in Gearhart for the rest of her life. They built a very nice house, which my sister-in-law, Alan's widow, lives in now.

### Education at Home

Hughes: Why don't you now talk about your schooling at home?

Roll: I think an important aspect is how it happened I was taught at home. I was past school age, I suppose, when the question arose. I must have been nine or so. Maybe even ten. There must have been more to it, but all I remember is that I was told (or overheard) that the authorities of the local school district had informed my father that the time had come for his children to go to school. Allegedly he said that would be fine if they came and got us and took us to school. The answer was said to be that the school district could not come to the end of our road, two miles from the road taken by the bus, to pick us up. To which my father was supposed to have said, "That's too bad."

I assume that actually there were family discussions of the problem. Mother had kept in touch with a college friend of hers, Marguerite Olmstead, who lived in Winnetka, Illinois, near Chicago. Marguerite was deeply involved in the Winnetka school system, which in its day was very well known and had some kind of an experimental program, and published a lot of educational material which I suppose was used in the grammar schools in Winnetka. Apparently it was available otherwise. I really don't know. In any case, Marguerite sent all the necessary materials. As I remember I started out with sixth grade manuals and exercise books.

Incidentally, my mother's Smith College degree was in pedagogy. [laughs] Pedagogy, whatever that was. I know it consisted of a lot of philosophy and I suppose psychology and allied subjects in the turn-of-the-century curriculum. I don't know.

Hughes: Such a major doesn't exist anymore.

Roll: Not that I know of. But it did then. My parents were also friends of the superintendent of the high school in Ilwaco. His name was William Round, and my inference in retrospect is that he put my mother in touch with the state superintendent of schools,

whose name, as I remember, was Josephine Preston, in Olympia, Washington--the state capital. Ultimately Mother was given a temporary teacher's license which was issued by the State Department of Education, or whatever it was called. Marguerite Olmstead sent her all the needed materials for arithmetic, history, geography, English. All the usual subjects. I must have been at least ten or eleven. What I don't remember is how many years this went on.

Hughes: But you think this didn't start until you were ten or eleven?

Roll: No, it certainly didn't. I suppose that Mother had taught me handwriting.

Hughes: You certainly read.

Roll: Oh, I learned to read by chasing her around the kitchen when I was about four and a half. I had been reading all this time--and she was also teaching me Latin. I suppose I must have learned some kind of handwriting. I remember at some point or other I learned the Palmer method. I can see the little red book--really a pamphlet. So I must have learned handwriting long before that. I certainly didn't learn it very well, but I think I was writing things.

In all of the country school districts in the state of Washington, children who graduated from the eighth grade had to take state examinations to be admitted to high school. So the purpose of this exercise was to prepare me for the state examinations.

Hughes: To prepare you and your brothers and sister.

Roll: Yes. But I was first in line because I had to face the examinations first.

Hughes: Do you think your mother felt all of you were learning perfectly well being taught at home? Did your brothers and sister read and write at the normal ages?

Roll: I have no idea. [laughs] I wasn't paying the slightest attention to what they were doing. I know that sounds ridiculous. I really was happy as a clam, and thought that the whole family arrangement was just great, but I really paid very little attention to what my siblings were doing. I know that I was not involved in most of their play activities, except that all four of us together went out with a baseball and bat and played one-a-cat or whatever you play. I don't remember being concerned about my brothers' and sister's schooling.

Hughes: Well, what happened once this program was adopted?

Roll: You know I wish I could remember when I started sitting down at the table and learning from specific texts, and how much of my learning came before that. Because I had certainly learned a lot long before that. Whenever it was, I know that certainly for a couple of years Mother had all of us sitting around the table in the kitchen. Usually it was a couple of hours in the morning while she was preparing dinner, which was the big meal of the day in the usual ranch routine.

Hughes: Oh, so she didn't sit down and teach you.

Roll: Oh, no. Well, occasionally she sat down, but there was a lot of other activity going on too. There was no dining room. There was a kitchen table, and we all sat around that.

Hughes: And she had you doing assignments?

Roll: Oh, yes.

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Roll: Catherine was six, so she was doing first grade work. Alan might have been doing second or third grade. Parker would have been doing fifth or sixth, or something like that. We all had assignments. Now, what they were doing with them, I haven't a clue.

Hughes: You don't remember any discipline problems?

Roll: Oh, no. There weren't any discipline problems in our family. [laughs] I don't think anybody in the family got dealt with disciplinarily. Usually it stopped at just a little motherly or fatherly gesture to settle the matter right then and there. And then "Why?" was answered, "Because I say so." Except that my mother often discussed the whys.

Hughes: But not your father?

Roll: But not my father.

Hughes: Was he taking part in any of this education?

Roll: No. Well, he was out in the field working like a dog, coming home exhausted. The time elements in this are very vague to me. I know what the outcome was.

Then there were health problems for my mother. For one thing, she had menstrual problems. For another, she had varicose veins which were painful. She often rested in the afternoon. This kind of varicosity apparently was not a lot of fun. I remember that at some point she had some vein stripping done, which I think alleviated the problem somewhat.

Hughes: I'm surprised that procedure was done that early.

Roll: Oh, yes. Her varicosities were fascinating. They were in one leg--and deformed its shape. Some of the veins were almost as big as my little finger.

Hughes: They must have interfered with her mobility.

Roll: Well, I suppose they did. At least they certainly interfered with her comfort.

Hughes: Was she not expected to do anything on the ranch proper? I mean, her realm was the house?

Roll: I suppose it turned out that way. But she did help with some of the farm chores. Actually, she was far from being crippled, and was a very active person. In the summer, for example, when the hay was being harvested there was an elaborate arrangement by which the hay was hauled up to the barn on large horse-drawn, flat-bedded wagons. Each hayload had three slings full of hay. There was a pulley that came down from the hay mow, which had a track along the angle of the pitched roof of the barn. A team of horses went into the barn in the alleyway between the rows of stanchions where the cattle fed, and was hitched onto the far end of the rope that was attached to the sling, which was still on the wagon. As the horses were driven from the barn, they pulled the sling from the wagon into the hay mow. Someone was stationed in the hay mow to trip the sling when it got to the point where it was supposed to be dumped. My mother was always summoned to drive the horses out.

Occasionally she drove the team for raking the hay. I'm sure she must have worked in the vegetable garden. I don't specifically remember it. Of course harvesting the vegetables was quite a performance. She also worked in the flower garden, which was a magnificent affair.

Hughes: Was that her special project?

Roll: Well, both of my parents worked in the flower garden. They ordered rare seeds from Sutton's in London. The flower garden was an important part of our family activities. I knew all the Latin

names of flowers when I was very young. I must have been a pain in the neck reciting them. [laughs]

But, going back to the lessons, I think all this activity was greatly affected by my mother's health. When I was twelve years old I knew that the following spring I would have to take the state examinations. That winter my mother began to have symptoms--abdominal pains of various kinds. I remember my father suggesting that a piece of mince pie would probably do her good. I can't imagine where it came from. We never had pie of any kind. I suppose it was Christmas time and someone had given it to us.

In any case my mother's symptoms were finally diagnosed as a duodenal ulcer, which had not responded well to the mince pie. Sometime after that Christmas, she went to Portland. Laurence Selling, who was the professor of medicine by this time, had been a classmate of hers at the Portland Academy. Now he was her doctor. As I told you, he put her on what was known as the Sippy Diet.

Hughes: I've heard of it.

Roll: It's a marvelous thing. It's calcium carbonate, milk, and I've forgotten what else. She also was very anemic. In order to save money, rather than buy Blaud's Pills, which I suppose contained iron, she ate liver. [laughs] These are the things I remember accurately. We had lots of liver around that came from the butchering of the beef. She had to somehow consume about a pound of liver--maybe it was only eight ounces--every day. Anyway, it was a lot of liver. It was recommended that she eat it raw. I can remember grinding it for her. She washed it down with ginger ale. She was really a brave woman. Worse, I didn't enjoy preparing it. It didn't look very appetizing.

Anyway, by mid-spring she was really ill and very anemic. Selling put her in the old Portland Convalescent Hospital. She must have been there a couple of months. I remember that it included my birthday and April Fool's Day. That's what I really remember. [laughs] I was a "cute kid." I made a cake--and I decided on a trick that would be a lot of fun. I put walnut shells in the batter and I put thread under the icing. God knows how I thought this up. Fortunately, I knew my father would think it was funny. Of course he had to cut the cake. I can still remember his expression when he put in the knife. He looked at me and then put the knife under the icing; and all the thread came out as he lifted the knife. He thought it was hilarious, and of course my brothers and sister were undone.

Anyway, by this time I was just barely thirteen. I cooked for the whole family and the hired man. In fact, I started cooking very much earlier than that, and was fairly competent by this time.

Hughes: Of course you weren't getting instruction.

Roll: Well, I went on by myself. I sat down every day and finished the lessons.

Hughes: Do you remember your brothers and sister doing them?

Roll: I don't [laughing] remember anything about them at all. It's rather extraordinary. I sometimes wonder if I were hypnotized I would remember things like this. I have no idea what they were up to. Or what they were doing with respect to their schooling. Maybe your mother was right; maybe nobody was paying attention, and both parents were concentrating on my getting through these things.

Anyhow, Mr. Round, the school superintendent, was in on all of this in some way or other. I remember an early example of my sensitivity to the value of good PR [public relations]. [laughs] When it came time to take the state examinations, I knew I had to take an examination in home economics or domestic science or whatever they called it. So I made a beautiful cake and sent it to Mr. Round. [laughs] God knows what the exam consisted of, but I got one hundred for the whole thing. Anyway, I took the state examinations to qualify for high school.

Hughes: Where were they given?

Roll: They were given in Ilwaco, in the high school. The high school and the grammar school were all in one building. Anyway, it was the first time I'd ever been involved in anything like taking examinations with a room full of strange children. I was petrified. But I took all the examinations, and got one hundred in everything except geography and penmanship. I got eighty in those two--a handsome pass. I still am astonished that I got through the ordeal so well.

Hughes: Yes, that was remarkable.

Roll: By this time, I suppose my mother was back. She must have been-- I do remember she looked very pale.

Hughes: What had they been doing for her in the hospital?

Roll: I know she was very anemic. I suppose she was in the Portland Convalescent Hospital to rest and be put on a diet (and probably supervised medication) to build up her blood count. I don't know how long she was hospitalized, but I would guess it was more than a month. That is counting the time it took to diagnose her duodenal ulcer and establish her on the approved diet and medication.

Incidentally, Laurence Selling, her doctor, had a summer place in Seaview (one of the several beach resorts on the North Beach Peninsula). He occasionally came out to the ranch to pay a "social" call, not a professional call. I remember his wife and his children coming with him. Although I don't actually remember this, I imagine he did pay occasional professional calls on my mother.

Incidentally, I imagine some of the cash needed for the hospital and other medical fees came from Mother's inheritance. Of course I have no idea how much these things cost. As I think back, I realize my parents never discussed serious financial matters with us as children.

### Family Life

Hughes: What was your social life like?

Roll: As I remember, there wasn't a lot of social life until we got a car, which was when I was thirteen. I started high school in 1923, and that precipitated getting a car, because Mother had to get us into Ilwaco where the school was. That was seven miles from home.

Hughes: Now, did all four children go to school?

Roll: Yes, all of us started to school at the same time, and were admitted to the grades we were, presumably, ready for.

Incidentally, a note about our transportation. At the time I was ready to start high school, we already had a little Ford truck, so we were on wheels to some extent. My father apparently thought we needed a more practical vehicle for going to and from school. As I remember he bought a Model T touring car for three hundred dollars. I think I'm right about this.

The original idea was that I would drive to school, so my father taught me to drive, at age thirteen. In the end he also

taught my mother to drive--and come September she drove us to school every day. Which probably was an intelligent idea. As I think about the idea of a thirteen-year-old driving the seven miles to school, with three younger siblings as passengers, it seems pretty radical. However, as I remember it was perfectly legal for me to drive.

Hughes: You didn't need a license in those days, did you?

Roll: I don't know; I guess not. In any case, I learned to drive. My father taught me; he took me down to the garage--which was at the bottom of the hill, about the equivalent of a block from the house. I really hadn't thought about the location of the garage for heaven knows how many years. Come to think of it, I suppose the garage was at the bottom of the hill, because the roadway from there to the house was "unimproved," to say the least, and would have been impossible for a car after a rain. Horses, of course, had no trouble.

Well--back to learning to drive. My father sat me behind the wheel and said, "That pedal is for backing up, that one is for going forward. And remember that one is for backing up," (this emphasis, because he wanted me to remember the first move was to get out of the garage) "and that is the brake. Now, get this thing out of here." Which I did.

He taught my mother to drive with less success, [laughs] a good deal of family hilarity--and a little irritation on my mother's part. She did drive the car into the back wall of the garage one day. [laughs] And she occasionally slid off the narrow plank road. That meant taking a team of horses to pull the car back on the road. My father loved to say, "Well, Carlotta, where'd you leave it today?" I must say he said this in a gently teasing tone, and she took it in good part.

Hughes: Did anybody ever go to church?

Roll: No. [laughs] My father had gone to church every Sunday of his life, and twice on Sunday when he was in Scotland.

Hughes: Was he a Presbyterian?

Roll: He was brought up as a Presbyterian--by Presbyterian parents. He never went to church after he and my mother were married, so far as I can remember. Nor did Mother for that matter.

Hughes: What was she brought up as?



Roll: She was Unitarian. At least I think she always thought of herself as a Unitarian. I really don't know anything about her parents' religious views--or affiliations, if any. As a family we grew up thinking of ourselves as Christians. I went to the Unitarian Sunday school for the year after I graduated from high school when I was at Catlin's [private girls' high school in Portland] for a year to prepare for college boards. I was not opposed to churches as such, or religious affiliations. Occasionally I went to church during college, but never joined a church. I recognized fairly early on that I was agnostic, although I didn't use the word until later.

At home there certainly was a lot of emphasis on the importance of being truthful, of being responsible, and there was a lot of emphasis on initiative. Mother brought us up to take responsibility seriously. I recall her saying, "You know, you're going to have to be turned loose and be on your own. I'm not going to keep any apron strings tied to you." If she didn't put that in so many words, it was implicit in everything she did. She was good at that. Marvelous.

Hughes: When the time came, she really did let go?

Roll: Oh, yes, she let go. Oh, yes, indeed. With a fine sense of her personal responsibility, of honesty. And telling the truth was an article of faith. I can remember some minor misdemeanor--I've forgotten which one of us told the lie; probably I did, at least once. [laughs] Parker said, "Yes, she did," and I said, "No, I didn't." We were sat down and she said, "Nobody's going anywhere until we've had the truth." She had an unerring nose for what the truth was. She was an extremely intuitive person who could tell what kids were up to long before they had formulated the mischief.

Hughes: Was she loving, as well?

Roll: Oh, yes, yes. It was a very loving family. Very.

Hughes: Your father as well.

Roll: Oh, yes--absolutely. Both were very affectionate. We were an affectionate family. I was thunderstruck when many, many years later I heard people talk about learning to touch. I couldn't believe such foolishness. How can you communicate without touching?

What else did you want to know about?

Hughes: Politics. What sort of things were discussed at the dinner table?

Roll: You know, I can't remember topics, but whatever it was, it inevitably led either to the Encyclopaedia Britannica or the big unabridged Webster Dictionary.

Hughes: So it was an intellectual conversation?

Roll: I suppose it must have been, otherwise we wouldn't have been so addicted to the reference books.

Hughes: You weren't just talking about the cattle.

Roll: Oh, no. I can't imagine that my mother programmed this, said, "Well, I've thought about it; well, we'll talk about so and so." I think it was all spontaneous, but I don't remember anything about the actual topics or any individual examples. I suppose a good deal had to do with how things were pronounced or spelled.

I don't know what the reaction of the other three children was, but I certainly was preoccupied with spelling and pronunciation from the very beginning. I don't know what my father was doing about this or whether he was paying any attention. I suppose he was. He certainly wasn't opposing it or leaving the table. He was there, and I think of it as a group of six who were involved whatever the conversations were about. At the least we were orderly and well behaved at table.

I don't really remember a lot about politics, except it must have been pretty Republican. I remember early in my childhood, my mother admired--even hero-worshipped--Theodore Roosevelt. I remember when Roosevelt died, my mother saying, "Oh, how dreadful."

Hughes: What was particularly appealing about Teddy Roosevelt?

Roll: I have no idea. I didn't have the curiosity to find out why. Well, he died when I was about nine.

Hughes: Yes, you were pretty young.

Roll: I do remember in the 1920s reading some of Teddy Roosevelt's letters to his children. I also remember several volumes of his other writings. I certainly grew up with admiration for him. I don't think I was sophisticated enough to connect him with politics, or even to know anything about politics.

I do remember that later on my father disapproved of a government subsidy of farm crops, and made it plain that he wouldn't think of taking money for not growing crops.

Hughes: Because that was government stepping in?

Roll: Yes. He would have nothing to do with that. It came to the point where he could have applied for some grant and he wouldn't do it.

My father was deeply involved with the Grange. In fact, he was master of the Grange, the local one. My father also was a wonderful carpenter and builder, very mechanical, and very gifted with his hands. He designed and built the Grange Hall, which is a nice building. He later designed and built our house when the first one burned down.

Hughes: Oh, really? I didn't remember that.

Roll: That was the year I got out of college [1932]. I can remember his talking about the cost of living, having no idea what he was talking about.

We were brought up with a healthy respect for high-toned morals. The difference between right and wrong was emphasized in everything we did. No question about that. And equally by both our parents. Of course, when we were children, there wasn't any worry about what we were doing in association with other children, because there weren't any other children to associate with.

Hughes: And consequently family values got passed down, I would think, in much purer form.

Roll: We were taught to realize that the time would come when we would be through school and then we were on our own. We expected to earn our own livings; we certainly had no anticipation of any help from home.

#### High School in Ilwaco, Washington

Hughes: Tell me what it was like to go to the high school in Ilwaco. That must have taken some adjustment.

Roll: I suppose it did. I think probably I worked it all out inside myself and I don't think I talked about the difficulties of it to my mother or father.

Hughes: Now, did you enter as a freshman?

Roll: Yes. Mother had taught me enough Latin so I went into Caesar, second-year Latin. Then eventually, the Latin teacher taught me

third-year Latin on my own, just me alone. As I remember she gave me Virgil. Then I took a correspondence course from the University of Chicago for Cicero.

Hughes: It's clear you had a lot of Latin.

Roll: Yes, I had a lot of Latin, and I took another year of it in college.

I sometimes think about what it must have been like to be one of many in a grammar school classroom. What I do remember, is that from the beginning, before I ever started high school, I was hell-bent to go to Smith College.

I also grew up (I no longer remember exactly what my mother did or said that gave me this notion) with the assurance in the back of my head that although it was very distant, that I was to rejoin the kind of culture that my mother had known when she was in Portland. It was your mother and her sister, Imogen, who had something to do with affirming that, because about the time when I was twelve or thirteen they started coming down for a couple of weeks every summer. So I was beginning to build relationships in Portland.

Hughes: Now, how had that occurred?

Roll: Do you suppose the Wentworths came down to Seaview for a weekend or something? I don't know.

Hughes: It's possible. I don't remember hearing about it.

Roll: I don't know, but the two families got together somewhere, because there is a snapshot with my sister, Catherine, at one end of the line and your mother's oldest sister, Anne, at the other-- before your Uncle Justin was born. So it had to be in the twenties. There were the seven of us in the snapshot.

Hughes: Taken out by the river?

Roll: Taken somewhere. I don't know where we were. Maybe it was while we were still in Portland. We were in Portland for two years.

Hughes: Why was that?

Roll: I thought it was to settle my grandfather's estate. My mother later told me it was to chaperon her sister Zola, who was about twenty-three and living alone in her father's big house.

Hughes: The whole family moved to Portland to do that?

Roll: Yes.

Hughes: And left the ranch?

Roll: And left the ranch. God knows what that was all about.

Hughes: That's probably when the Wentworths and the Honeymans got reacquainted.

Roll: Yes. You see in the snapshot, Catherine, at the end of the line. She was born in 1915 and my grandfather died later that year, so it would have been 1916 and '17. Aunt Zola had come back from Smith College at that point, and there she was without a father or mother. So my mother decided she'd better be on hand. I'm sure Mother regarded Zola as a handful. She had always felt very responsible for her, ever since her mother had died when Zola was only twelve or so.

Incidentally, your grandfather [Lloyd Justin Wentworth] used to take my mother out from time to time. Your grandmother and my mother had been friends. Oh, and then also there was the connection with Ethel Wentworth, and God knows how she was related, but she was.

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Roll: Ethel Wentworth was a very dear friend of my mother's, and this, I think, kept the Wentworth connection going. Also, it must have been Ethel's brother, Holly, who was a great friend of my father's. And then there was still a younger sister, a Wentworth sister, Helen, who married somebody named Fisk. Sally! Would you like me to introduce you to your family? Anyway, the Wentworth connection was very strong, and I suppose maybe Ethel or Holly or somebody was in the background of all this. In any case the Lloyd Wentworths and the Honeymans got together.

I suppose later on, probably Mother particularly, saw your mother and father when we used to go up and stay with Mrs. Sabin, who also lived near both Wentworth families in Irvington. I have a feeling that I got introduced to your mother and Imogen in that connection, when we went to Portland, when I was having my teeth straightened. Anyway, somewhere along the line, Mother suggested, or my father and mother both suggested, that the two Wentworth girls come down to visit us.

Hughes: Anne was never part of it?

Roll: She was never part of it. She was older.

Hughes: She was also asthmatic, remember?

Roll: Yes. Maybe Mother didn't want to have anything to do with that, but I don't think that would have been a reason. In any case, I don't think the communications between Anne and the two younger girls was all that intimate. An older sister has a different relationship, really.

There was one other child who was invited down there. My father had some Scottish friends named Lamont, but they pronounced it "Lá-mont" instead of La-mónt. I remember they had a daughter named Denise, who was a younger child with at least one older sibling, a brother. Denise Lamont came down once--I think only once--and we immediately called her "silly little Denise." [laughs] I can remember my aunt saying, "What ever became of silly little Denise?" I did know her later, when she wasn't quite as silly as I thought she was, but she was never quite my cup of tea.

Hughes: Did people stay for weeks?

Roll: Weeks, yes. But the only ones who kept coming back were the two Wentworths.

Hughes: For how many summers, do you suppose?

Roll: I don't know. I always think of it as being one right after the other, but I probably am wrong. It could have been as many as four.

Hughes: Did you keep in touch in between?

Roll: Oh, yes. Then, by the time I was in high school, Mother stayed with Mrs. Sabin or with her sisters, and I with your mother's family. The Portland connection was obviously very important to me. I think that this part of my experiences profoundly influenced my growing up. It influenced my reactions to the experience of going to high school, where I was socially inexperienced and younger than most of my classmates.

Hughes: And more advanced academically?

Roll: Younger and more advanced academically. There were only sixteen or seventeen of us in the class. It was an unusually small class. The classes older and younger were all much larger.

Hughes: And they were all farm children?

Roll: No. One of them was the daughter of a rich cannery owner. There was a boy named Lundquist whose family grew cranberries. There were two Finnish boys whose families were fishermen, I suppose. There were three or four Finnish girls who were quite bright and whose family, I suppose, had something to do with fishing.

Hughes: Is that why the Finns came to Ilwaco--to fish?

Roll: Yes, there were a lot of Finns. Most of my schoolmates were Scandinavians of some sort. There was a girl named Karen Jersntrom, which I suppose was Danish. Her family were moderately prosperous. There was a girl named Belknap; I don't know what her family did.

Hughes: Did you become good friends with any of these people?

Roll: Yes, I can say that we were friendly.

Hughes: Enough so that they came out to the ranch?

Roll: The only one I think that ever came out to the ranch was the rich girl, whom I didn't like-- never did like. I don't remember any others coming out. It was rather a long way away. I vividly remember a girl named Arlene Lindstrom, who had a heavy boyfriend all through high school. She sang beautifully. Really a very gifted girl. She and I fought tooth and nail for the first place in the class all the way through high school. Eventually I was valedictorian, to everybody's astonishment. Finally, by the time we were seniors, I was the class president. So I guess I socialized after a fashion. I don't know that I was a howling success.

Hughes: Did you like high school?

Roll: Oh, yes. I liked going to school. I liked learning. I was enthralled.

Hughes: But you didn't mind doing it in a more regimented way than it had occurred at home?

Roll: No. I had the chance of achievement.

Hughes: And then Catlin's was an additional year?

Roll: Yes, to prepare for college boards, I needed chemistry, which was not taught at the Ilwaco High School. And I needed another year of Latin.

Hughes: Ilwaco High School was not college preparatory?

Roll: Well, students went on to college, but nobody needed college boards.

Hughes: It was only the Ivy League that required college boards in those days?

Roll: Yes. Well, I suppose that either college boards, or maybe it was the SATs [Scholastic Aptitude Test], were used for Stanford. Other than Stanford, I can't think of any college out here-- Well, I suppose Caltech had high requirements, but mostly it was Eastern seaboard.

A lot of my schoolmates went to college. Arlene Lindstrom went on to college and became a teacher. She never got married to her boyfriend [laughs] after all. I think several of them went to college. I think probably four or five of them went to teacher's college, which was a two-year thing. I think Arlene, though, went to the university.

### The Catlin School

Roll: But anyway, my aunt, Mrs. Mersereau, Aunt Elizabeth, offered to have me come and live with them for the year that I went to Catlin's.

Hughes: Why had Catlin's been chosen?

Roll: You mean instead of St. Helen's Hall?

Hughes: Yes, where you had connections.

Roll: [laughing] I don't know; I suppose it was considered superior. It made rather a thing of preparing girls for college boards.

Hughes: So it was not unusual to come in for a year?

Roll: I think it was very unusual, but I did it.

Hughes: You were with the class below you.

Roll: Yes. I went through the senior year again. Another diploma, as a matter of fact. I think that was more traumatic than the other high school was.

Hughes: Well, you had to adjust to an entirely new environment.



Roll: I had to adjust to an entirely new environment. The Portland girls took a little dealing with. But they were very nice. One of them who was particularly nice to me was Hal Hirsch's sister, Helene. That's really how I got to know Hal--through Helene.

Hughes: Was she in your class?

Roll: Yes. She must have been. Jean Wight, yes. I could recite my classmates pretty accurately, I think.

I can't remember anything about my academic achievements at Catlin's at all.

Hughes: You don't remember any trauma in switching schools?

Roll: I remember most of the trauma was dealt through the English teacher whose classroom was above the chemistry lab. I added something to something that produced  $SO_4$ , I think. [laughs] Mrs. Briggs, who was a neurotic creature, and I think probably with some reason, said that it practically undid her. Or did for her, as the case may be. It seems to me I had some other chemistry laboratory misadventure, but I can't remember what it was.

Hughes: You were taking the full agenda?

Roll: I was taking the full agenda. I was taking Latin and chemistry and English. It must have been four or five classes. The chemistry obviously didn't take and I don't know quite why, because Eleanor Clinton, who was a Bryn Mawr graduate, was the teacher. She was a good teacher, and I'm sure she knew her subject. My encounter with the college board in chemistry was not an outstanding success; and, as a matter of fact, I don't think I did very well in the chemistry class either. I don't remember anything about it except that chemistry raised some doubts about my eligibility.

Smith accepted me conditionally. When I got to Smith I had to take the Scholastic Aptitude Test, which I suppose is what is called SAT these days. As I remember there were rather a lot of my classmates that went through the same routine. If I remember correctly, a girl from Portland, Emily Nichols, was also admitted conditionally--and she was reputed to be exceptionally bright. In any case, I sailed through the SATs with no trouble whatever. I was admitted to Smith College as a member of the class of 1932.

Hughes: Were there any teachers that you would consider mentors or particularly influential?

Roll: Yes, good question. The teachers were exceptional, actually.

Hughes: At Catlin?

Roll: No, I'm thinking of the high school in Ilwaco. It was more important than Catlin's. I did not find anything extremely inspiring or special about the Catlin faculty. I think that they had more impressive academic credentials, but they were not remarkably appealing. The only two I remember were Eleanor Clinton, who was the physically very unattractive chemistry teacher. She was the one that went to Bryn Mawr. Mrs. Briggs was a neurotic, tall, ghostly sort of creature. I don't know what her history was.

Hughes: What did she teach?

Roll: She was teaching English. She must have been very good, but she just didn't appeal to me. She was an unhealthy kind of a person. There were other teachers around whom I don't even remember. I can't visualize them.

In Ilwaco, the superintendent of the high school taught algebra, which I had in my freshman year of high school. He was a very good teacher. I won't get off into a digression about his history, which is fascinating. He had a son who was ahead of me in high school--a couple of years ahead. He was in and out of our house a good deal. A rather sickly, strange boy who became stranger and stranger. In the 1950s, he resurfaced by mail and sent me a whole bundle of successive letters and poetry, and wrote me a weird story about his father. It turned out he was not really his father. [laughs] It involved a murder and I don't know what all else.

Hughes: Why did he get in touch with you?

Roll: Some kind of a fantasy about me that had been hovering in his head all these years.

But anyway, Mr. Round was an excellent teacher of algebra, and I sailed through algebra and got ninety-five for the year. I found this a very satisfying adventure to start on. I'm trying to think of the order in which my teachers came. There were two other teachers; one of them was named Josephine Fitzgerald, who taught English. I think she was the one who volunteered to teach me some extra Latin. She was a very good teacher and we got to know her very well. She used to come out to our house for dinner.

Then there was Selma Olsen, a young woman from one of the local towns on the peninsula. She was the daughter of a very prosperous fishing family. Her brother later became one of my father's duck-hunting companions. I think she was a graduate of

the University of Washington. She taught history. She became a very good friend. She married a man in the oil business in Tulsa. She and I carried on a correspondence for years. I remember she had two little girls. Eventually I lost the thread totally.

After Mr. Round left, the next superintendent was a man named John Goddard. I guess Mr. Round must have left after my first year of high school, because Goddard taught geometry, which was taught sophomore year. I sailed through geometry with distinction, too; I loved it. John Goddard was a lively and dedicated teacher, and a very nice man. I liked him very much. He went on to be the superintendent of some much larger school--seems to me it was in Yakima, a large central Washington town.

I think it's rather remarkable to have four teachers that good in a small community.

There also was a very bright, unattractive man named Hatfield who taught physics. I can't imagine what he was teaching in high school for. I think it was called physics. Somehow that sounds pretty "fancy" for a country high school in the 1920s. I remember he also taught manual training. Anyway, he gave me marks lower than the nineties, to which I had grown accustomed. [laughing] Now I remember with shame the arrogance of the child I was. I went in one day and said, "You'll ruin my whole high school record if you give me an eighty-five," or whatever it was.

Hughes: Did he then proceed to change it?

Roll: I don't suppose he changed it, but as the course proceeded my grades improved. [laughs] I remember him as a bright and pedantic man. Just unattractive.

Hughes: What about extracurricular activities?

Roll: I was on the debating team; so was my brother Parker, and we used to go as far afield as the next county.

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Roll: I learned about a New York Times-sponsored oratorical contest on the subject of the Constitution. It probably was a nationwide competition, ten-minute orations. In two successive years I got as far as one of the divisional contests that was held in Longview. I got gold medals, and a twenty-dollar gold piece each time, too, which I unfortunately spent. [laughs] I don't think I did much else. I was temporarily talked into being in the class play and decided that was not my dish at all. I got out of it by saying I had to do the oratorical contest.

- Hughes: Did you have to go home from school and do quite a few chores on the ranch?
- Roll: Yes. There are a lot of things I've forgotten. I not only went home from school and did chores. I started the day by getting up at six or before, milked two cows, lit the fire in the kitchen stove (a wood stove, of course), started the breakfast, and did an hour of studying. I also did homework when I got home. I milked the two cows again in the evening, before supper. And did a lot of the cooking.
- Hughes: What were your siblings doing?
- Roll: I don't know. They must have been doing something either useful to the household, or perhaps their own homework.
- Hughes: I'm sure your mother wouldn't have let them just sit around.
- Roll: Well, I'm sure the boys did chores. But nobody got up very early in the morning. My mother and father were not congenitally early risers. I was the early bird--bright and shining. Of course, when they were going to school, the boys must have had homework.
- Hughes: Were they out in the field with your father?
- Roll: Quite a lot, yes. By the time they were teenagers, they certainly were. I suppose they must have chopped kindling and stacked wood and so on. I guess I just wasn't very interested in what they were doing. Even at the time I don't think I could have told you much about their activities.
- Hughes: Catherine spoke about spending time with your parents, I think when everybody else was gone.
- Roll: For a couple of years when she was finishing high school, she was the only one at home.
- Hughes: Probably quite a bit of the burden fell on her, then. There was nobody else.
- Roll: I think by that time that my mother's health was considerably better. I think they rather pampered her and let her go her own way. The transportation was a lot easier and she went out with the boys. She says she graduated at the head of her class, which I didn't hear about at the time.
- Hughes: Did she go straight on to college?

Roll: She went to Pomona, and I'm not sure just how long she went. Certainly not more than two years. My inference is, she met Peyton Sibley, ran away and married him, and quit college. So she did not finish college.

Hughes: And what happened to the boys?

Roll: Well, they both spent some time "shipping out." Parker shipped out several times as an able-bodied seaman. Alan, being quite a resourceful boy, got on to the Mataon Lines as a yeoman, which is really the secretary of the engineer. I am unclear about the sequence of all this, but both of them at various times went to Reed College, where they were not howling successes. Then Alan went to Whitman.

Hughes: Still as an undergraduate?

Roll: Oh, yes. I'm not clear about how long he was there. I don't know whether he went to Whitman first and then to Reed; I can't remember. Parker, after the Reed episode, went to the University of Washington and quit with a quarter to go. None of these things make any sense to me at all. It couldn't have been impossible to finish at that point.

Parker was at Reed the first year I was out of college and tried an experiment of sharing an apartment with me, which was a total disaster--because Parker and I never had much to say to each other. I guess we were simply incompatible.

Hughes: What was he like?

Roll: My mother's frequent comment was: "Remember, Parker is sensitive," which meant to me that he was very quick to call attention to his woes--very aggressive about his woes. He had a physique appropriate to an aggressive temperament. In fact, he was pugnacious. Remarkably so; I mean, he actually took punches at people.

Hughes: Really?

Roll: Oh, yes, he was quick on the trigger.

Hughes: I wonder where he got that.

Roll: I don't know, and I can't imagine how living around our parents, it wasn't disciplined out of him. Alan was a very self-disciplined person. The two boys shared a room and that was not a very good combination.

Hughes: Did you feel closer to Alan?

Roll: Yes. Unfortunately eventually Alan and I had misunderstandings. Alan was by far the brightest one of those three, with real intellectual potentialities. I think he carried into his adult life self-consciousness about having been cross-eyed when he was a very small boy. Actually, his strabismus was completely corrected with one surgical procedure. By the time he had finished high school he didn't even have to wear glasses. He was very handsome. Because he was a very late maturer he was short for his age when he started grammar school and high school. I don't think he ever quite got over that.

I think all three of my siblings may have suffered from my being featured as the bright and shining light. At least I suppose this is possible; I certainly have considered it as a possibility all these years. And then I think the fact that I was privileged to go East to college must have caused some discomfort, or sense of being less fortunate.

Also, by that time money was really running out. In retrospect I can understand that they could have felt somewhat deprived because of me. I should think they'd have been pathological if they didn't.

Hughes: But you had a scholarship, didn't you?

Roll: Oh, yes, I had a scholarship, but still that wouldn't have explained everything.

Hughes: Your parents, of course, had to clothe you and transport you.

Roll: I had a tuition scholarship. I don't think I had board. Now I don't remember. But I think it paid for half, so that there was still the other half, and in those days it was somewhere between \$900 and \$1,000 a year. But there was train fare, and of course I never came back for holidays. The train fare, I think, was around \$100.

Hughes: I'm sure none of this seemed insignificant at that time.

Roll: No. It was a lot of money then.

Hughes: Particularly considering that it was the beginning of the Depression.

Roll: Yes, the Depression hit about two months after I got to college.

Hughes: Did it have immediate effects on the ranch?

Roll: No. My mother always said it just meant everybody came down to our level [laughter], which I think was true. It certainly had immediate effects on my classmates, who dropped out like flies. No, I don't think it had immediate effects. It had eventual effects on the ranch; that was a rather slow process in which the price of beef went down to about eight cents a pound. My father finally canned the beef and sold it in cans. Which kept things going, after a fashion.

I realize I ought to think about how what I did and what happened to me was having an important effect on my siblings. No matter what I did, it made for invidious comparisons, I'm sure. Much more than I realized. I really don't think any of this originated in the actions or comments of our parents--certainly not consciously. And then my marrying a rich man didn't help, I'm sure.

### Smith College

#### Preparation and Arrival

Hughes: Did you ever consider applying anywhere other than to Smith?

Roll: Only as a contingency plan if I didn't get into Smith.

Hughes: Did you actually apply elsewhere?

Roll: No. I assumed that I'd have no problem getting into Reed College in Portland; that was my alternative. I decided that if the immediate acceptance at Smith didn't come through, I would go to Reed for a year and then transfer. Said she blithely. I was hell-bent on that.

Hughes: Was Reed looked upon as a very liberal institution in those days?

Roll: I suppose so. I didn't think about it. It was looked upon as having a very high academic rating.

Hughes: But not particularly liberal.

Roll: Oh, it must have been. Meikeljohn was the first president of Reed, and he was a flaming something-or-other.

Hughes: The innuendo that I've gotten from the Wentworths is that no way were they ever going to have anybody connected with them go to that "pinko place."

Roll: [laughs] Oh, yes, Reed had that reputation.

That's an interesting comment on my family. I never heard them talk about anything being unacceptable for any reason. Well, the boys both went there at various times. They admired the intellectuality of it, and my mother's sisters were great friends of a later president of Reed. What was his name? Schultz. Cheryl Schultz married E. B. McNaughton eventually, after Schultz died prematurely. McNaughton had been a partner of Bob Strong, who was an old beau of Mother's. Perhaps his connection with Reed made it an acceptable place. Barry Cerf was a very distinguished professor there and a great friend of Aunt Lucile's, especially. The two Mersereau sisters (my mother's sisters) at that time lived in Eastmoreland right near Reed College. No, there was never any negative talk about Reed. I suppose you could say that my family was "academic-minded", and put academic excellence before ideology.

Hughes: My mother went to Radcliffe, which wasn't exactly in the family pattern.

Roll: No. In fact, if it hadn't been for Mrs. Wilbur<sup>2</sup> and Radcliffe, it is possible that intellectuality would not have so conspicuously entered the Wentworth family.

Hughes: No. Of course, my mother was bright.

Roll: Very bright.

Hughes: And I think she was appreciated for that, but she probably would have gone to the University of Oregon if Mrs. Wilbur hadn't stepped in. I think much more attention was paid to appearances. I mean, it mattered that an institution was left-leaning. And it didn't matter that you got a good education there. You certainly wouldn't go if the politics were wrong.

Roll: Isn't that funny? I never thought of it.

Hughes: Of course I'm only surmising.

Roll: Well, I think you're surmising correctly. I always thought of the Wentworths as being pretty conventional.

Hughes: Oh, I think they are. To this day.

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<sup>2</sup>Mrs. Wilbur provided my mother with a scholarship to attend Radcliffe. It was the Depression and the family was already supporting her two sisters' college educations. --S.S.H.



Roll: Yes. I think it's a conventional tribe.

Hughes: Not intellectuals, although my grandmother honestly admired people who were, and she had one or two friends who were; but it didn't have the effect on her that I think it would have had on me--of inspiring me to emulate that level. Although she was not a stupid woman.

Roll: Oh, she was neither stupid nor illiterate.

The kinds of ways in which the two families of not dissimilar backgrounds impinge upon our lives, I think is very interesting. Also interesting is what kind of influences steered you and me, your mother, the few people that were affected by outside influences, to emerge from the background, not necessarily with any intention on the part of the ones who gave the original impetus. Although Mrs. Wilbur was a free spirit, and my mother told me about an extramarital affair of Mrs. Wilbur's. [laughs] So I knew a good deal about her, and liked her for it. In fact, Mrs. Wilbur, I think was the one who was teaching the Sunday school class, the only one I ever went to. I remember knowing that there was something special about her, and thinking that she was a glamorous and unusual person. I think she damped the fires down at the end of her life [laughs], more's the pity. I think that she was a passionate spirit.

You see, my mother had a nose for those things. How she knew it, I don't know, but she knew, and I'm sure she never mentioned it to anyone else. She may have quite consciously told me these things to prepare me for the world outside, taking into consideration the very sheltered childhood I had had. But in the end it turned out not to have been so sheltered because I knew all these things already. [laughs]

I told you, didn't I, her wonderful speech when I married Hal?

Hughes: No.

Roll: She said, "Well, I don't suppose there's anything I can tell you [laughing]. After all we brought you up in the barnyard. You probably know more than I do." Which I thought was wonderful.

One further thing about the months immediately before I went to college was another very subtle act on my mother's part. She told me this tale: There was a girl who lived in her house at college. At this time, lights were out, I think, at nine o'clock, and I believe they were gas lights. Each person was supposed to be in her own room when the lights were turned out. The girl in

question was an, or perhaps the, heiress to the Filene fortunes. She had an admirer on the campus. The only girl on the campus, Mother said, so far as she could remember, whose hair was cropped short. Nice, curly head of cropped hair. Very gifted girl who played the violin beautifully. She used to come and serenade this girl.

Mother said that one night, she was groping her own way down the corridor in the dark when the lights had been turned out, and put her hand right on this head. She knew instantly who it was, of course.

She told me she and her classmates graduated and went their own ways. The Filene girl married and apparently was perfectly happy. The other girl went from Smith to Johns Hopkins to medical school. I don't know whether it was one year or two years into her medical school career when she committed suicide.

Mother didn't spell anything out, but I got the picture. As a matter of fact, I don't think she ever used the words lesbian or homosexual. She knew, being bright, that I was going to encounter something like this at college, and that so far as she knew, this would be a new idea to me. It was.

Years later, I went to a Smith College alumnae meeting in New York where I met a classmate of Mother's. I asked her if she remembered this story. She said, yes indeed she did, and it was exactly as my mother told me.

By a strange coincidence, at the same meeting I saw a woman who had been two classes ahead of me at Smith--I think she was the first girl I saw who was so conspicuously homosexual that I instantly realized she was the contemporary version of my mother's story. It turned out that I learned a good deal about her history after her graduation. I also knew that at the time of the alumnae meeting in New York--this was in about 1948--she was a literary agent. I asked my mother's old friend if she knew anything about my contemporary. She said, "Oh, yes, of course! It is indeed the same kind of story." Fascinating! I have had good reason to see that the "new" generations really are not as different from their elders as they sometimes fondly believe.

Hughes: Did you encounter any lesbians when you were at Smith?

Roll: Not any aggressive ones, no. No, nobody [laughing] ever made a pass at me. But then possibly because I was alert to it. I identified a lot of them without much trouble, and some of them I identified with a little help.

Another very clever thing Mother did kept me from smoking. She said: "Now you're on your own; you have to have initiative and self-reliance and be your own censor. You will have to make your own mind up about smoking and drinking, but you know how I feel about it." And so it was that I have never smoked. I didn't have a drink until Prohibition was repealed in 1933, when I was twenty-three. All through my college years Prohibition was the law. I sometimes found myself in spots where people tried to persuade me to have a drink, and I refused. One of those who was most insistent, which was strange, was an old boyfriend of your mother's, Denny Lawrence, usually a very goody-goody boy. I don't know why he was so hell-bent. I remember silly talk about "When in Rome." I said I thought I could manage my own life in Rome, without doing what everybody else did.

Anyway, with all that preparation and its lacks, I went off to college.

Hughes: Say something about your first impressions.

Roll: To me it was a thrilling thing to get that far from home, to see the other parts of the country. I was by this time imbued with interest in colonial history, and the historical sights in New England.

Hughes: Did you have any trepidation?

Roll: I suppose I must have, but I don't remember it. I don't think I did. I don't think I was ever homesick.

Hughes: Now, is that the time that you and Mother went off on the train together?

Roll: It was one of the times.

Hughes: And Sally Jenkins?

Roll: No, that was later, because she came from California and we were starting in Portland.

Debby Ball Burke and Mary Malarkey Wall and your mother and I, and I think Eb Wheeler--the older brother of Mary Elizabeth Wheeler--and maybe Minor Nichols was on that train. We were a considerable contingent of Portlanders. I don't know how we got to Northampton [Massachusetts]. Yes, I remember the first look at New England, and just thinking: This is New England! How exciting! I continued to be thrilled with seeing Boston and going to Washington and Philadelphia, seeing the Liberty Bell, and

climbing up the Washington Monument. I was the perfect age for all the new impressions.

I loved every moment of Smith College. I spent a lot of time reading things that were totally out of line with what I was supposed to be doing.

Hughes: You mean not reading the assigned reading?

Roll: Just reading. I've been an obsessive reader all my life. I did not have a distinguished academic career by a long way. But I never really felt all that guilty or badly about it because I was enjoying it so much, and I felt that I was getting a lot more out of it than one could read from the record. And I was.

Hughes: Did you fit in socially?

Roll: How does one know? I don't suppose I did. I certainly was not like everybody. I was rather a loner. Not a brooding loner, just fairly self-sufficient.

I didn't get involved in a lot of activities. I did make a good many friends, people that I've kept in touch with ever since. I was not oriented to an organized way of dealing with college life.

### Courses and Faculty##

Hughes: Why did you major in history?

Roll: I don't know. [laughs] As a matter of fact, that was a very odd thing, because I had many courses in literature of one kind or another. I had a good many courses in history. I had a lot of courses in history of art, which I loved. When it came to my junior year, the question came up: "What are you majoring in?" They (I suppose it was the class dean) said: "You almost have a major in history of art." Or could have. They didn't have the kind of guidance systems you have now. Choosing a major was rather like putting some blocks on a table and rearranging them. So finally whoever it was said, "Well, I guess you have a major in history," so I took another course from Merle Curti.

Hughes: Did you take another language?

Roll: French, which was a disaster.

Hughes: Why was it?

Roll: Well, because two of the teachers were American. Two years of it. It was only French for reading knowledge, not conversational. It was really a great mistake. I hope they don't do that anymore. The teachers both had bad accents and I knew they were bad accents. I have a good enough ear to know that. We had to have a reading knowledge of two languages, so--I think it was freshman year, the end of the year--I took the examination in Latin and passed it without any problem.

Probably during sophomore year I decided I'd take French. The girls in my house at college who were my classmates had studied French since grammar school. They said, "How dare you do such a thing?" I took it and passed it with no problem at all, and they all flunked it.

I knew even that early that the way to pass a reading examination in a foreign language was to consider each sentence separately, and try to figure out what the general subject of it was, and then make it make sense, even if I wasn't sure what the words were. I had enough sense of grammar so I could tell which the subject, the object, and adjectives were.

Hughes: Yes, Latin would help.

Roll: Oh, Latin has saved my life in many an academic crisis. Anyway, where were we?

Hughes: You didn't say very much about Merle Curti.

Roll: Oh, Merle Curti. He was kind and generous enough to take notice of me and talk to me about the papers I wrote and about the sources for doing research and so on, and a good many times invited me over to their house. So I got to know his wife too. It seems to me he had some children around. He was young. He was, I suppose, in his late twenties.

There was something about him that gave me the feeling of being in the presence of a real scholar. But he also had lightness and humor. I greatly admired his grasp of details, the way he could rattle off a bibliography without looking up anything, and knew how to evaluate each reference and say why that person was a reliable source. I acquired more appreciation of the method of scholarship from him than I did from anyone else for a very long time thereafter. When I graduated, he urged me to go on and do graduate work.

Hughes: Did you ever consider that seriously?

Roll: Well, 1932 was not an ideal moment to look for the funds for graduate work. I've forgotten where he recommended; I think the University of Chicago.

Hughes: But you never got that far, did you?

Roll: No. I didn't have sense enough to know that that was the kind of thing I should do.

Hughes: Were you thinking in terms of getting married?

Roll: Well, I mean, I just assumed I would, but I didn't really have anybody in mind right then. I didn't meet Hal until I got out of college.

Hughes: Did you have quite a social life at Smith?

Roll: Not really, not compared to many of the girls. I suppose that I didn't realize how much the nearness of home communities affected a great number of the girls who were at college. They were there with girls they had gone to school with who had brothers who were in colleges nearby. Some of the girls were in a perpetual social whirl. I don't think I felt particularly neglected because of it.

Hughes: Where did the men come from?

Roll: Amherst, Yale, Princeton, Harvard, Williams.

Hughes: Social activities would have occurred pretty much on weekends, wouldn't they?

Roll: Oh, yes. We were all of us pretty confined to the campus. We were allowed off campus I think only three weekends a semester. A lot of girls used to have dates with people at Amherst, and that's only seven miles away. Even the boys were restricted to some extent.

Hughes: Were there other teachers that stand out in your memory?

Roll: Almost everybody was really exceptional. I had my extra year of Latin with a remarkable woman from Radcliffe who was a Phi Beta Kappa and president of the Phi Beta Kappa Society. Her name was Florence Gragg. She was a very forbidding-looking woman. She taught for a dollar a year. Apparently she had considerable money.

Minna Kirstein Curtis, who also was related to Filene's--Lincoln Kirstein's sister, the dance Kirstein--taught for a dollar a year. I don't know if there was anybody else. I remember hearing it rumored that Paul Robert Lieder, who taught drama in the English department was a dollar-a-year teacher. What a very glamorous man, and a fine teacher he was! I had him in one class, I think. Florence Gragg was outstanding; Lieder was outstanding; Curti; the professors in the art department. All of the people I had were very, very good. Alphonse Varenkamp in the art department was outstanding, not for his charm but for his scholarship. He was a specialist on Brueghel. There was one biographical source on Brueghel by a man named Costa--it was in Flemish. Varenkamp used to pick that up and read it and translate it into English as he read it. He read a large part of it to us. Fascinating. He gave one semester in Flemish painting and one semester in Dutch, and he arranged it so that he started with the most primitive and saved Rembrandt until the end. It was an extraordinary tour de force. Also a funny man, very strange character, but God, he was good. After the war, he was commissioned--by whom, I am not sure --to go to Germany and identify the Dutch and Flemish paintings that had been stolen and taken to Germany.

Hughes: A recognized authority, then.

Roll: Oh, yes.

Hughes: You now pride yourself in writing, I believe enjoy writing. Did anybody in the English department stand out?

Roll: No, I really hadn't given any thought to creative writing at that time, not until a long, long time after that. In fact, I don't think that ever occurred to me. I was always excited by the idea, but it never occurred to me to think about doing it myself. Until Sheldon. I absorbed that, not directly, but indirectly, from my association with Sheldon.

He was a very good writer. I can think of all kinds of things that are wrong with the way he wrote, but he was a facile writer, very clever. I really taught myself writing technique indirectly by my contact with him. I used to write his letters, take the dictation directly from him right onto the typewriter. So I got very much interested in syntax and in editing. Much later, when Scott [Heath, Barbara Roll's second husband] dictated letters, I edited them as he spoke them, and changed the sentences. I'd say that was the latter part of my life. I didn't start that kind of foolishness until I was forty. [laughs]

I was always afraid to take courses from the creative writing people like Esther Dunne, who was a fine writer herself. I was scared to death of her. I knew I just wasn't grown up enough for that then. Then there was a Milton scholar named Marjory Nicholson, who I think went to Radcliffe later. I thought she was a little beyond my grasp, too.

- Hughes: How about academically? I went to Bryn Mawr used to being at the top of the heap, and found that if I was going to be anywhere near the top, I really had to scramble.
- Roll: Well, I think that's probably what happened to me too, and I opted out. I just wasn't that grown up, mature. I think I knew I was a late maturer.
- Hughes: So you were giving yourself some time.
- Roll: Yes, I was giving myself some time. What I didn't anticipate was what a disease it was going to be when it really hit me.
- Hughes: Mr. Curti was obviously picking up on something in you.
- Roll: He was picking up on my curiosity. He thought I had imagination, and he knew from my reactions that I heard him and understood what he was saying, and that I admired his scholarship which might be something that I could do something with.
- Hughes: Did you ever have any feelings about being in an all-women's environment, plus or minus?
- Roll: Plus. Very decidedly, because I knew I needed room to grow up in, and all of the distractions of coeducation were not going to do me any good. And I knew that it was doing me no harm to be isolated. I also knew that many of the girls didn't have any driving intellectuality, but were both socially and biologically precocious, and that Smith was a miserable place for them. It just wasn't doing anything at all for them. I think that that would be far less true now, because so much freedom is allowed; whether it's a women's college or not wouldn't matter. I was aware at the time that the Smith environment was hard on them--that they weren't really getting that much out of it.
- Hughes: What was Smith's overriding intention? What was it expecting its graduates to become?
- Roll: I don't know how it would have been articulated by anybody that had anything to do with it. The atmosphere was one of encouraging intellectual development, and I was not at the time conscious of what you were supposed to do with it when you had it. But I never



ruled anything out. In other words, I didn't feel that it was in any way merely a place to spend time before you got married. No, not at all.

Of course it is the history of Smith College women that there are many of them who never get married, who do go on to careers without getting married.

Hughes: What about the feminist tradition? Were you aware of it?

Roll: No. Not at all.

Hughes: I can't help but compare Smith to Bryn Mawr. M. Carey Thomas was a leading feminist. She may not have called herself that, but that's what she was. There was also the mythology, only our failures marry. There was that tinge to Bryn Mawr, a very bluestocking atmosphere.

Roll: I don't think there was at Smith.

Hughes: I had the feeling that Smith girls were better rounded than Bryn Mawr girls.

Roll: Well-roundedness always has seemed to me to be the hallmark of Smith. The emphasis was on teaching you to think as well as you were able for whatever your limitations might be, and Smith made considerable efforts to pick people who had a potential.

I don't remember, until the last few years, ever thinking about feminism. It just went right by me. Even when it had begun to permeate the environment in the last twenty-five years, it still went by me. I find it an abysmally boring area of interest and activity.

Hughes: You never had any problems yourself?

Roll: No. Organized women have always made me a little ill. It gives me a headache to think about them. I couldn't even stand luncheon and tea parties in my social days in Portland. I always came home with a headache. I have never cared for groups of women together.

Hughes: Yet many of the things that you have done in your life, a feminist would approve of. Not being tied to family, and--

Roll: Oh, yes, I know. [laughs] I've done all the right things without the right motives.

[Interview 2: April 26, 1993]##

### Diversions

Hughes: Barbara, I think you want to elaborate on what you said yesterday about Smith.

Roll: I think I neglected to talk about the diversions that were very important to me and that were not strictly connected with the curriculum I was studying. Things like concerts--wonderful musicians who came to Northampton. The Detroit Symphony and heaven only knows what else. Lecturers whose names I probably can't think of right this minute. Oh, one of them, certainly, was Norman Thomas. Anyway, the lecture seemed important enough to me to write notes on it, which I still have. I was aware that I was having an opportunity to hear things that had been outside my experience up to that point. I found it very moving and very exciting.

Also, there were very strong connections with my mother's friends from her own college days, which I found very interesting. One of them was her friend Marguerite Prescott Olmstead, who had sent Mother the material from the Winnetka schools for teaching us at home. Marguerite Olmstead had a daughter and two sons.

Incidentally, her husband, John Olmstead, had been out on the West Coast--on business, I suppose. He came down to the ranch for several days, so I had met him long before I went to college. I think he and Marguerite were divorced before I went to college. In any case, she was living on the Smith campus when I arrived at Smith. I remember she lived in an apartment in the boathouse on Paradise Pond near the Faculty Club. I don't remember what her function was. I often stopped in to see her after classes were over for the day.

Marguerite's daughter, Janet, was taking a master's degree, I think in history, my freshman year of college. So I became well acquainted with her. She was engaged to a young doctor, Cabray Wortley, who was, I think, a resident at Rush Medical School in Chicago. They were married the following year, which seemed very glamorous and remote from my own life.

Marguerite also had two sons, Prescott and Johnny, who were at Williams College, about sixty miles from Northampton. Prescott, I suppose, had other feminine interests, so I fell heir

to Johnny's attentions. Unfortunately, I found him unattractive. [laughs] Nice but not very interesting.

On more than one Thanksgiving the Olmsteads included me in a family gathering, which also included some cousins. I remember we went to the Whale Inn in Goshen, which is about halfway between Northampton and Williamstown. That kind of occasion was a great treat.

The Olmsteads were a large family, and included several of my mother's college friends, by marriage. I vividly remember my mother talking about a friend named Grace Leggett, who married one of the Olmstead brothers, who was a landscape architect. Grace died young, but her daughter was at Smith--and was included in the Thanksgiving parties. She and I became good friends, but I've lost track of her. There was another cousin at Smith who was a good friend with whom I kept in touch for a long time. They were attractive people of whom I became very fond. Marguerite was a jewel to whom I was devoted.

There also was a classmate of my mother's named Alice Holden, who was a professor of government. Very handsome. She also was very nice to me. Very nice indeed.

Sometime before I went to college, I became acquainted with Caroline Corbett. I don't remember how this came about.

Hughes: She was a Smith person?

Roll: She was at Smith, a class ahead of me, and she came from Portland. Caroline's mother was a Smith classmate of my mother's two sisters, and lived near them in Dunthorpe (an exclusive residential area in Portland). When I was in college, Mrs. Corbett was on the board of trustees of Smith College. Since Caroline and I had become close friends, Mrs. Corbett included me in the group of college students she took out to dinner when she came to Northampton for board of trustees meetings.

Hughes: Did you make new friends there as well?

Roll: Yes. However, I haven't really kept in close touch. I don't really know why. The girls I knew very well in my own house were not particularly fascinating. We did keep our contacts for a long time afterwards. Now all of them are dead.

Hughes: Did social life revolve around the houses?

Roll: No, not entirely, because the people like Betty Olmstead lived in another house. We were allowed to invite one another to dinner at

our own dormitories. For example, I had a good friend, Edith Cramer, whom we called Squeaky for some unknown reason. She came from Hartford and lived up in the Quad. I've kept in touch with her--most recently saw her at a reunion.

Hughes: Do you remember long, intellectual conversations?

Roll: Oh, yes.

Hughes: Solving the problems of the world.

Roll: Oh, we solved the problems with great solemnity and effectiveness. Yes, we did. That aspect of college life was very vivid to me for a very long time. However, in the past twenty years or so [laughing] this has begun to seem childish.

Another thing that's been important in my life--which began before I went to college--is the aspiration to ever higher intellectual heights. I set my sights higher and higher for the criteria I had for intellectual excellence. I don't know how long it took for me to feel that I had lost the bonds of congeniality with my own contemporaries at college. We were widely separated geographically after I got out of college, and I kept becoming more and more interested in intellectual subjects that were out of their realm.

#### Leanings Towards Biology

Roll: Shortly after I was out of college, I realized that I probably should have majored in biology. I'm not sure why I didn't. I think it must have been largely because there were no courses in biology in high school. I knew that biological subjects interested me. Obviously, my interest in how inheritance affected cattle was important. My mother had a fine intuitive sense of how people resembled one another in the same family, and the temperamental traits that went with the [physical] traits. She had a sense of how much was innate, and so on.

Smith College required us to have two science courses. Looking back, I don't know whether it was out of cowardice or chance that I had a non-laboratory course in physics with an abysmally dull man named Jones. I can still remember his face. And a course in psychology about which I remember very little, except the professor, Harold Israel, who fell off the desk into the wastebasket one day. [laughs] Which I gather was a common accident among the academics. (He later married Eleanor Jack, who

was the daughter of another of my mother's favorite classmates--She is still living and has become a well-known professor of psychology.) I was interested in psychology, but I didn't learn anything I could really get my teeth into.

I suppose partly out of diffidence, I avoided the biology classes. Perhaps I was put off by the high reputation of that department. There was a man named Howard Parshley who translated Simone de Beauvoir--the great French feminist, Sartre's girlfriend. He was a real scholar and obviously a fine biologist.

I rationalized my failure to study biology to think that but for the grace of God I probably would have done something very scientific and medical and got myself into a whole career, which really would not have led where I wanted to go. At this point there's no harm in saying that I think almost everything that has happened to me has been by inadvertence. Chance. I seized the opportunity when it was rammed down my throat, but I am not to be credited for seeking my own goals. They just hit me. The goals were abstractions.

Hughes: Yes. Achievement and that sort of thing.

Roll: Well, and curiosity. I knew that I had unbounded curiosity even long before I went to college. I can remember formulating it into "I want to know why."

I never had a sense of having any great gift for any particular thing. I thought I had a gift for being attentive to the possibilities of learning things, and I felt by the time I finished college that I had a capacity for finding out what I wanted to know. I felt that I had some notion of how you go about finding the sources. But I didn't have any specific goal. I'm not sure I ever did. [laughs]

Somewhere along the line, and I don't know where it began, I also knew that it was fatal to take yourself too seriously, and I have become increasingly convinced with every year of my life that the moment anybody begins to feel he's important, he's gone. That's a fatal mistake.

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Hughes: Barb, you graduated from Smith in 1932. Then what?

Roll: I came back from the East Coast to the West Coast, having bid farewell to Fred Roll. [laughs] My senior year I took a couple of courses in education and thereby entitled myself to teach.

Hughes: That was deliberate?

Roll: Yes, I had decided that probably the most practical thing to do would be to teach, inasmuch as jobs were really scarce and I didn't have any particular talent. So I thought that I could teach high school Latin and English. I can't remember how I got in touch with the Gabel School, but I did. I must have talked to Priscilla Gabel the summer I was home, between junior and senior year. I just don't remember this. But in any case, I negotiated a teaching job before I ever got back to the West Coast, to teach Latin and English for fifty dollars a month. Magnificent. And of course with small private schools shrinking visibly week by week in autumn 1932.

Hughes: What is the history of the Gabel School?

Roll: The Gabel School was an outgrowth of the old Jewell School. They were right across from St. Helen's Hall. I don't remember what the connection between the Jewell School and the Portland Academy was, because Gabel had both grammar school and high school. They were very small classes. Priscilla Gabel was rather a strange, austere schoolmarm. The students were hardly the most promising I have ever seen. In any case, I guess I taught there for a year and a half.

Meanwhile, I got myself a job for ten dollars a month to work on Saturdays. [laughing] When I think of this, it sounds absurd. I worked at a lending library that was run by one of the McCulloughs. I don't remember the details of that. By this time I was engaged to Harold Hirsch. I have some recollection that Priscilla Gabel was not overjoyed with the idea of my engagement.

Hughes: I guess she knew that she was going to lose you.

Roll: Yes. But she persuaded herself that she'd like to lose me ahead of time. [laughs] I have succeeded in forgetting the details, but the sum total added up to being fired in the middle of the year. It was not the most pleasant experience.

Hughes: How were you as a teacher?

Roll: I was so discouraged by the outcome of all this that I really don't know. I didn't teach again until 1965--over thirty years, and then I was a good teacher. Very good. It was a great success. I certainly did not manage to light a fire in Spencer Ehrman, Jr. or Herbert Alward, Jr. Although Spencer did go on the Yale and Herbie went and taught at Washington State in Pullman, and committed suicide eventually.

Gladys Gilbert, who was a photographer, took my engagement picture. The Gilbert Studios hired me, hoping I would attract a lot of wedding pictures, I assume. I don't remember what they paid me, but it was not magnificent.

Hughes: What were you to do?

Roll: I telephoned everyone whose engagement was announced, and tried to persuade the bride-to-be to engage Gladys Gilbert for her wedding photographs. I guess I got some clients; I don't remember, really. I don't think that the Gilberts were that good.

Meanwhile, I was having quite a jolly social life. [laughs]

Hughes: With Hal?

Roll: Well, with various people. Before Hal I went out with various boys. Nothing serious. I enjoyed going walking in the Portland hills with Tommy Wilson, who had been a more serious boyfriend of your mother's. I played bridge with Larry Shaw and Sam Martin.

Hughes: Where were you living?

Roll: I had two different apartments. The first one was on Clay Street.

Hughes: How could you afford an apartment on that kind of salary?

Roll: The apartment was twenty dollars a month. Which I could afford. That was considered a reasonable percentage of one's wages for housing. It consisted of a living room, which had a pull-down Murphy bed that came out of a large closet, and a kitchen, and a bath. Seems to me there was even more room than that. Part of the time my brother Parker was there, so there must have been more than one bed. It was a pretty good-sized apartment for the price. I don't remember why I moved. I rented a much more pleasant apartment about which I remember very little. It was right across from Finley's Mortuary. [laughs] But it was a nice new building.

### Marriage to Harold Hirsch

Roll: This all took place in the first year I was out of college. I don't remember where I met Hal, but it was that year. I think I met him through his sister Helene. When I started going out with him, one of the first things he said to me was, "I will never marry a Gentile." [laughs] At that point I didn't really have any designs on him.

Hughes: And you didn't have any feelings about going out with a Jew?

Roll: Oh, no. This goes back to being so interested in Harriet Pickens as a black girl who had been honored at Smith. I had already acquired an almost crusading feeling about racial prejudice. No, if anything, I felt this was a very good thing to be doing. Anyway, Hal went out with many of the girls I knew. He was looked upon as a desirable bachelor.

Hughes: How did his family feel about dating Gentiles?

Roll: I don't know how they felt about dating them, but they felt strongly about our getting married and were not enthusiastic about it. Nor were my family, for that matter. They all made peace with it, but they didn't like it much.

Hal was just coming out of a love affair with a girl named Jane Fleckenstein, who was not Jewish. A beautiful creature who looked like "the blessed damosel." She was tall and willowy, with a luxuriant head of glorious auburn hair, and green eyes. I think probably I caught him more or less on rebound. Her family had seventeen fits over her infatuation with Hal. Later on, she married a sort of a madman named Gates who was in the lumber business. I've forgotten what was wrong with him. Something dreadful. They had a child and they were divorced. She and her mother had an antique shop on either Morrison or Alder, up around 11th or 12th, and I remember walking by it. I remember one night we even had her to dinner. She was a lovely person; I certainly never had anything against her.

In any case, all of these things went on for about a year, I guess, with my coming and going with all kinds of people. But it was obviously getting more serious, and Hal finally changed his mind about a Gentile. In 1933 Caroline Corbett had announced her engagement to Ivison MacAdam. She was going to live in London.

By that time, Hal and I were engaged, and I told Caroline about it. She said, "I'm going to announce my wedding date, which is going to be New Year's Day." She went on to say: "Why don't you announce your engagement at the party when I announce my wedding date?" This meant that the Elliot Corbetts were giving their blessing to this mixed marriage, which is really quite extraordinary, and surprised any number of people. (I seem to have a penchant for surprises.) So that was precisely what happened.

Hughes: Now, what was Hal doing businesswise?



Roll: Hal had graduated from Dartmouth, and I suppose he graduated in 1928. He graduated in sociology, with honors. He decided that he would like to do graduate work at Oxford, with the idea of really taking sociology seriously. So he enrolled in Oxford. He was there when the stock crash came. He was worried about his father, as so many fathers were jumping out of windows because of the crash. So he came home.

While he was at Dartmouth, he became interested in skiing. He was influenced by a man named Otto Schniebs, a skier from Austria, who taught skiing at Dartmouth. Hal got the idea that making ski clothing would be an appropriate endeavor. At that time, White Stag, which was then Hirsch-Weis, made lumbermen's wool shirts and what are now known as blue jeans. They were really denim overalls. His father said, "All right, you can have a corner of the factory to make ski pants." Well, within two or three years the ski clothing division was spectacularly outselling everything else.

Hughes: Because skiing was becoming popular.

Roll: Skiing was becoming very, very popular.

Hughes: Do you know why?

Roll: Skiing had been around for a long time, and I suppose that in its early phases it was a fairly inexpensive sport. I think it has changed drastically since then.

Hal then thought up the bright idea that "Hirsch" means "stag" and "Weis" means "White." So they registered the name White Stag--a brilliant move. White Stag was off and running, and by the time I knew him, it was a big thing. They had a large number of salesmen all over the United States.

Hughes: And Hal was in charge?

Roll: And Hal was in charge.

Hughes: A young man; he was only in his twenties then.

Roll: In 1932 he was twenty-five. He was young. And ambitious. He was getting \$125 a month. (Remember this was during the Depression, and the dollar was worth a lot.) One of the young men I knew commented that one day Hal would be very wealthy, which meant I would be also. I remember Hal said he didn't think I looked upon his potential wealth as very important. He was right--I didn't.

At the time our engagement was announced there was a terrible uproar about Jewish boys becoming too attached to Gentile girls. Our engagement announcement did not soothe the families involved. I remember Jack Meier (the son and heir of the Jewish governor of Oregon) was madly in love with a girl named Jane Holbrook. Our engagement effectively broke that one up. Incidentally, Jack's father was a principal owner of the big department store, Meier and Frank; the Meiers were cousins of the Hirsches.

Later our marriage came to be a strong argument for mixed marriages. At the time the immediate reaction was disastrous for several budding romances. I remember Jack saying, "Thank you so much. You really fixed me up!"

So we were engaged. I moved out of that apartment and into the St. Francis Hotel, which was on the corner of 11th and Jefferson, across from the Campbell Court Hotel. The Campbell Court was where my Aunt Zola lived.

Aunt Zola by this time was a widow, and among other things I remember, she gave me a hundred dollars to buy clothes. I went out and bought a wardrobe for a hundred bucks, including a wedding dress and several other things. It really seems a little crazy. Mostly, I think from Ungar's [women's wear store], which no longer exists. So from Christmas until May [1934], I lived in the St. Francis.

Hal and I were married in Ilwaco, in the little church in the town. My mother and father had a reception for over a hundred people, out on the ranch. I don't remember anything about it, but I am told that they had enormous amounts of marvelous salmon, which I'm sure they did. It was a beautiful day, I remember that.

We had found a flat on Madison Street just under the Vista Avenue Bridge. There were four apartments in that building, and two of them were occupied by couples who had also recently been married. One of the couples is now living here in Carmel. We were off to a very good start. I liked Hal's father, Max Hirsch, very much; he was a dear man. Very sweet. His mother, Clementine, was a pain in the neck.

Hughes: In what way?

Roll: She was intrusive and bossy. Oh, she just generally displeased me. She had a habit of coming in and telling both of us what to do and what not to do. She learned early that that was not a very profitable approach. She came in one day and actually started moving things around. "This would look better here," and so she picked it up and moved it. She was a bustler. She had a maid

whose comment on her was, "Duz duz everything." (At the time there was a household soap powder called Duz.)

She was the kind of person who took the Depression so seriously that she spent more gasoline hunting for less expensive asparagus than the asparagus cost. That kind of a mind. Anyway, one day she really started to rearrange our whole flat. Having reached the end of my tether, I blew up. I said, "Look, don't you ever move anything again in this house. Ever, ever, ever!"

Hughes: How did she respond?

Roll: She just looked astonished and retreated. And she never again intruded on our household arrangements. I should add that she and Hal never got along either. However, Hal was devoted to his father.

Within a year or so both of the parental Hirsches started agitating for grandchildren. This is an important point that probably should be faced. I have a dark suspicion that I really never wanted to have a child and that it did something to my chemistry. I didn't try not to.

Hughes: There was no biological reason for that?

Roll: None whatever. Steinmetz (my gynecologist) said he never saw a more apparently ideal patient for childbearing.

Hughes: It was no problem as far as Hal was concerned?

Roll: That was not established until much later. It turned out in the end that he had a borderline fertility problem. "Low motility," I think was the delicate way to express it. But there was much agitation on the part of his parents.

I must say that I was always, as long as that's what I was doing, a loyal wife; if that's what Hal wanted, that's what we did. And I don't think I thought a lot about how I felt about it. It was just obvious that the only way to get along was to go along with what he wanted, except there were some details that I always managed to resist. And you know what's an odd thing? I cannot remember what we had altercations about, but we certainly did. I don't remember what brought them up.

Hughes: Early on?

Roll: Oh, within a couple of years, certainly. I don't know when they started. Probably fairly early, because Hal was a very determined

man who was always trying to improve me. Which I thought was all right, but I thought he went a little far with it.

I certainly expressed the wish to go on learning very early in our marriage. Right after we were married, I went down to whatever business school it was and made a deal to tutor in both typing and shorthand. That summer I learned to be quite expert in both. I used to listen to the radio and transcribe what I was hearing. When we went to lectures I transcribed them. I really learned typing and shorthand, and took the task seriously. There was never a question of my working, and I can't remember how I felt about it. Hal just made it plain he did not expect me to work. He expected me to keep the house, which I did.

But I also went out to Reed College and audited a wonderful four-year symposium in the humanities that was conducted by a man named Aragon. The course reviewed all of Western civilization piece by piece by piece. I listened to a great deal of that. I also used to go and listen to Barry Cerf sometimes. I was still hell-bent on learning.

#### Volunteer, University of Oregon Medical School

Roll: In the first several years I also realized how much I wanted to do something about medicine. I don't know where my interest in psychiatry came in, but I know that when the Junior League membership came up, its greatest attraction to me was working in the medical school. Particularly, I wanted to work in the psychiatric clinic.

I don't remember precisely when the Junior League membership came up; probably after we'd been married over a year. I was reluctant; I did not entirely approve of the Junior League, and I was not impressed by the social cachet of it at all.

Hughes: What did the Junior League do?

Roll: The Junior League gave most of its money and a great deal of its time to volunteer work at the medical school and the clinics. I don't know what the other volunteers did. I think a lot of them must have not been very useful.

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Roll: I do remember that the Portland Junior League, like many of the other chapters, hired a man who put on Junior League Follies.

This was his livelihood; he went from city to city doing this. I had a running battle with the Junior League about turning out for the Follies. I said I didn't have the slightest intention of making a fool of myself in front of several hundred people. [laughs] Anyway, that ended that discussion.

I did do volunteer work at the medical school. I did reception work in a good many clinics. I also saw how Dr. [Henry] Dixon, who ran the psychiatric clinics, worked. I told him that I very much wanted to do volunteer work there. There was a girl, a Junior League member, who had been a volunteer in that clinic for several years. I never learned the details, but Henry Dixon arranged for me to be the volunteer in the outpatient psychiatric clinic. I worked every Thursday afternoon for fourteen years in that clinic.

Hughes: Doing what?

Roll: Well, I put my shorthand and typing to work. I kept the records for them. Sometime, not very long after I started in the psychiatric clinic, I also became interested in the tuberculosis hospital. (I don't remember facing up to it at the time, but the fact of Fred's involvement with TB certainly had an influence on me.)

Somehow or other, I think I must have met Dr. Ralph Matson, the chief at the tuberculosis hospital, in the clinics in the medical school. Perhaps I asked him about working over there. I don't remember how it happened, but I did go over to the tuberculosis hospital, which was part of the medical school.

Hughes: That's what it was called? The tuberculosis hospital?

Roll: I think so. That's how I remember it. That is where I met Bill Conklin, whose wife Hal married after our divorce. So on Thursdays I worked all morning at the TB hospital and all afternoon in the psychiatric clinic. I was there all day Thursday, and Hal used to bug me about having "white-coat-itis." He was not really enthralled with this interest of mine. Obviously I never loved anything so much.

I used to transcribe Bill Conklin's surgery notes. I acquired an extensive medical vocabulary. I also did the cross-referencing of their pathology. I was really being useful. Also, I put something together that had to do with writing for, I think, Dixon too. I can't remember just what all this involved. In sum, I was deeply interested in many medical school activities.

Hughes: You were working a full day on Thursdays. Did you go to the hospital every day?

Roll: No. It wasn't very far. We lived in the Highlands, not far off Canyon Road. The University of Oregon Medical School was just over the hill. I don't know what I did the other days. Just running that house and garden took some time. For the first five or six years, we lived first on Old Orchard Road near where your mother and father were. They were down on Vista Avenue-- only a few blocks away. We rented the house on Old Orchard Road. Then we bought a little house on Mount Adams Drive on Council Crest. We lived there several years.

Hughes: Did you have help in the house?

Roll: Yes. I can't think what kind of help, if any, we had when we lived on Old Orchard Road, but when we got to Mount Adams Drive I had an eighteen-year-old girl whom I discovered had an illegitimate child she had borne by herself. I paid her eighteen dollars a month. She succeeded in finding someone who took care of the baby for ten dollars a month. Awful. After I learned of her predicament I did raise her pay to twenty-five dollars a month. Eventually, she found a job cooking for a school cafeteria, and was able to look after her child herself. Incidentally, the child's father was the son of a prominent family. It's the sort of story I wish I had been able to follow longer.

I really should mention again that this part of the story happened in the middle of the Depression, when the dollar was worth a good deal. I'm sure Hal was getting more than the \$125 a month we started on, but he probably wasn't getting more than \$300.

### Adoptions

Hughes: When did children come into it?

Roll: Must have been 1939, when we had been married five years.

Hughes: Yes. And you were trying to have babies in that period?

Roll: Yes. But I was never upset that I didn't have them.

Hughes: Was Hal?

Roll: I don't know. He didn't say so if he was, but he was interested in the idea of adoption.

Hughes: Who made the decision to adopt?

Roll: I suppose that we both made the decision. At least I went along with it. I had nothing to do with getting in touch with the appropriate agencies.

Hughes: Hal did that?

Roll: I suppose he must have, because I don't remember anything about it.

Hughes: Was it easy enough to arrange?

### Freddy

Roll: I think it took six or eight months, or something like that. I guess it wasn't too difficult. Freddy came from an agency in New York City that was founded by a woman judge named Justine Wise whose father was a famous rabbi, Rabbi Steven Wise. Freddy was three years old. Both that agency and the one where Jannie came from made a great point of matching children ethnically with their adoptive parents. So Freddy had--I've forgotten whether it was a Jewish mother and Gentile father. Anyway, it was a Jewish-Gentile mix.

He was a sad little boy who looked malnourished.

Hughes: Where had he been for those three years?

Roll: I think he had been in a series of foster homes. I've forgotten these things, but he had been in more than one place. But I must say that he became a very healthy-looking child remarkably quickly. He was the kind of a child who didn't eat. Lots of children are like that, get dietary idiosyncracies. I decided the only way to deal with that was not to give him anything to eat, so we'd skip a meal and I'd try another one. It finally meant he was going without food for about twenty-four hours. And after that he ate.

Hughes: He went for twenty-four hours without food?

Roll: One time. As a matter of fact, I went through I don't know what to give him proper nutrition--cod liver oil and vitamins, and who knows what else. He was soon quite robust.

Hughes: Did you have any trepidations about adopting an older child?

Roll: Of course. I had trepidations about the whole business.

Hughes: And how did it feel to be a mother?

Roll: Oh, that part of it was not difficult. I was a good mother. I really was. But I feared that Freddy was going to have a difficult life.

Hughes: What made you think that?

Roll: Well, he just wasn't catching on really fast. Our pediatrician suggested mental testing. But I never felt that the tests really proved anything one way or the other. I was worried that he would have difficulty academically, and I worried that he might have a delinquent streak. He was not the most reliable child. I also had a feeling that it didn't do him much good to be around me. I'm sure all children are bright enough to have a sense of whether they are being successful with other people.

Hal was not the best person to be a parent. He never really knew how to deal with children or anyone else, in what I think of as a truly caring way.

Hughes: Did he enter into the parenting very much?

Roll: Oh, yes, he entered into it, but you just know who is good at it and who isn't, and he wasn't good at it. He consistently wasn't. And his mother and father constantly interfered with unwelcome suggestions. Consequently, Hal and I failed to make the parent role a coordinated effort.

### Jannie

Roll: Within a year and a half or so, we got Jannie. Jannie came from The Cradle when she was three months old. She was, from my point of view, a success from the first moment. She was born at The Cradle, or born at some nearby facility used by The Cradle--probably in a hospital next door. I imagine she was brought to The Cradle immediately. They keep the infants in little compartments about eight by ten [feet]. No child is ever exposed to another. They never really see the whole face of their caretakers because they all wear masks to prevent transmitting infections.

Hughes: And discourage bonding?



Roll: The word "bonding" was something I learned much later, but I suppose it was. I can't remember the name of the woman who founded this place, but she was interesting.

Hughes: Was there just one Cradle or were there a lot of them?

Roll: One, in Evanston, Illinois. Hal knew about this because the founder's sons went to Dartmouth. She had become interested in the problem of adoption because her sister had adopted a child who turned out to be feeble-minded. I can't remember what the details were. But anyway, it was a disaster. She made up her mind that she was going to work on adoption and have people adopt children who were appropriate. She put the prospective pregnant girls through thorough investigations before she accepted a potential baby for adoption.

However, they weren't all adopted out to well-off people. I remember there was a story about a cop in Indiana who had nine children from The Cradle. The story was reported as a great success, marvelous.

Anyway, Jannie was obviously a wonderfully healthy, normal baby. I always thought of her as being neurologically totally healthy. Everything about her movements and her reactions were vigorous and healthy. She was full of vigor and vim, and very attractive. I am astonished that she seems to be neurotic as an adult, because she had every indication of being a totally non-neurotic, extremely energetic, normal child.

Hughes: And bright?

Roll: And bright, oh, yes. I don't know how intelligent she is, but she's bright.

Hughes: How much younger is she than Freddy?

Roll: She was born in 1941, I guess, and Freddy was born in 1937, I think. He's over fifty. I think she's four or four and a half years younger.

Hughes: Do you remember how Freddy reacted when the baby came to the household?

Roll: No, I don't. I don't think he did anything unusual. They grew to be, I think, quite close. I think that was the one plus in this arrangement: that they are good friends.

Hughes: To this day, you mean?

Roll: Yes. Except that she doesn't think that he stands up and does all that he should be doing.

Of course there were a lot of things happening at the same time. I certainly had no early intention of breaking things up. We had moved from Mount Adams [Drive] to the house on Wyndham Lane by the time we had Jannie. By that time we also had horses. So in addition to the Junior League, I had a horse to ride. That took some time.

Hughes: Did Hal ride too?

Roll: Oh, he was a fine horseman. Hal is a natural-born athlete. He was good with horses, he was good with golf, he was a good skier. He is a natural athlete. But he was not a natural with a garden or with a pet. He had no idea how to deal with a dog. He really had no idea how to deal with a horse as a pet. He used to drive me mad because he thought I was putting too much water on the lawn. We had a beautiful garden.

Hughes: That you took care of?

Roll: During the War I mowed the nine thousand square feet of it.

Hughes: So you didn't have a lot of help?

Roll: To begin with, I always had some help, and from then on it was always live-in help. Up until the end of the war, I had an elderly widow, Mrs. Gentry, and she was gentry, all right; she was marvelous. Really lovely, fragile, white-haired lady. Also she was very nice to the children and took excellent care of them.

Hughes: She was the housekeeper?

Roll: Yes, she did cooking, and she took care of the children if we were away--all that sort of thing. And did it well; she was good. So she was there, oh, for four or five years. Meanwhile, the war came along, and hell-bent Hirsch, of course, had to get in the act. [laughs] He was so near-sighted they wouldn't take him in the army--to say nothing of his age. Somehow or other he got into a civilian unpaid job in Washington, in the Office of Research and Development of the Quartermaster. Indirectly his tour in Washington laid the foundations for all our later troubles.

One of the people in his department was Fred Wulsin, the anthropologist. It was he who told me about the Sheldon books.

I almost forgot to say that Hal decided that he better go to Washington alone. Apparently I didn't make any fuss about it,

which seems strange, in retrospect. In other words, I was to stay in Portland and take care of the house and children.

Hughes: For the entire war, he was going to do that?

Roll: Yes. As it turned out, this came to an end faster than we anticipated. He must have been there eight or nine months. He must have gone there sometime in the latter half of 1943. Mrs. Gentry, after he left, said, "You know, if it weren't for you, I wouldn't be doing this." In other words, she wouldn't have put up with Mr. Hirsch for two seconds. She stayed through to the end.

I went back to Washington twice for about a month each, I guess, leaving Mrs. Gentry in charge. And sometime in 1944-- and I don't remember what part of the year--his mother was diagnosed as having a terminal cancer of the liver. So Hal came home. Which I don't think made a lot of sense. He had a real love-hate relationship with her. Really terrible. So he came home, and she died. In the meantime, both his parents constantly interfered with the upbringing of the children. I realized that nobody was agreeing with anybody. It was just not making good sense.



## II WILLIAM H. SHELDON AND SOMATOTYPING

### Introduction to Sheldon's Work

Roll: I didn't really face up to what I might do about my predicament until after I met Freddy Wulsin and got hold of the Sheldon books. Freddy had told me that [William H.] Sheldon had died of Hodgkin's disease. The important point is that I read the books not knowing that there was a Dr. Sheldon somewhere around.

Hughes: Why did Wulsin tell you that?

Roll: He believed it. He knew Sheldon had been diagnosed as having Hodgkin's disease; so when he heard no more about him he assumed he had died. A weird business, I agree.

In any case I was enthralled with the idea that people's physiques and behavior were closely linked. Having sat in the psychiatric clinic all this time, observing different kinds of behavior, it had occurred to me that there were interesting physical differences among the patients.

Sheldon wrote a lot about the differences between neurosis and psychosis, so I had plenty to chew on. The idea of physical structure was something that I couldn't resist. I really was lit up.

Hughes: Was Sheldon saying that physique and personality were bound?

Roll: He was interested in personality before he was interested in physique, and before he worked out the somatotype technique. This was one of his problems with somatotype. He was hell-bent to get back to behavior. His graduate work had been in psychology. He then went to medical school. He had a Ph.D. in psychology first, and the medical degree later. He felt that he had to write the

book on physique<sup>3</sup> and publish it first, although he was deep into the behavioral aspect of it before he ever started the physique part.

Hughes: But he was nonetheless trying to make the connection between physique and temperament.

Roll: Oh, yes. The two were to go together. They were pieces of each other, but his mind was on how to apply the behavioral hypotheses to the description of physique. So I came back from Washington with the Sheldon books very much on my mind. It was like having a second adolescence.

As a matter of fact Sheldon later told me he believed that many people do have a kind of second adolescent rebirth, an intellectual rebirth, in their late thirties. If true, I sure had it. There was no question about that.

Hughes: Did you have the feeling at the time that this interest was pulling together all the strands that you had been interested in?

Roll: Oh, yes. It seemed to me that if there were some way I could do something with it, that it would answer all of the groping I'd been doing in my head.

Hughes: Did you have an idea of what that was going to be when you came back from Washington? That was 1944?

Roll: This was 1944. Well, I'm sure I had all kinds of fantasies about how to do it in my own context. I wanted to incorporate it in my existing life somehow. I wanted to start by doing graduate work at Reed College. Hal hit the ceiling--which I suppose meant he was a smart man. Ultimately it boiled down to something like this: (and I'm sure he actually said this) "Well, if I let you go back to school, I'll lose you."

Hughes: What did he mean by that?

Roll: I think he thought I'd leave him. I think that's what he was worried about.

Hughes: In the end you did leave him.

Roll: Oh, yes. You see another important factor for him was: his falling in love with me was not immediate. But once he fell, it

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<sup>3</sup>William H. Sheldon (with the collaboration of S.S. Stevens and W.B. Tucker). The Varieties of Human Physique. New York: Harper and Brothers, 1940.

was permanent. This has been a lifelong thing with him. I certainly was in love with him to begin with. It's just that eventually there were too many things that went against my whole concept of what life should be like, and particularly the business of how to bring up children. It was just that every rule by which I had been brought up was being defied--food between meals that they shouldn't be having, and all kinds of indulgences. Why didn't we do this and why didn't we do that? Hal didn't seem to be doing anything about it. Hal was not consistent about what he was doing. I was brought up knowing my parents were united on what the issue was.

Hughes: Do you think that if there hadn't been this tension over the children that you might have stayed married?

Roll: I probably would have.

Hughes: You think so?

Roll: Well, I know that I had begun to think about the possibility that this just wasn't going to work.

Hughes: How soon?

Roll: Oh, I suppose about the time that Hal went to Washington.

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Hughes: How much of your dissatisfaction was due to the situation at home with Hal and the children, and the interference from the grandparents, and how much was it that you were becoming clear about what you wanted to do, which wasn't just being a housewife and mother?

Roll: I think it was the combination in about equal parts. It wasn't that I didn't want to be a housewife--or a mother, for that matter. I didn't want to be doing a poor job of any of it. Also, it was clear to me that there was a good possibility I was wrong. I mean, I didn't have to be right about what I wanted. It was the fact that apparently there was no compromise. It was a locked-in sort of thing. I don't know quite how to describe it. Maybe if I think about this more, I can. I knew that I had to do something about getting educated some more; I had to know more, however it was done. It seemed to me that if Hal was not going to agree to that, we just couldn't live together. I couldn't see how we could. It took five years for me to come to this conclusion.

Perhaps this is the place for a bit of self-analysis, which I engage in with some trepidation, and with a rueful awareness that

my self-image and the image of me those around me have, cannot be expected to be mirror images.

I think I have made the point that I have always striven for intellectual excellence; that I have valued acquaintance with those who have themselves achieved genuine intellectual status. When I look back on my thirties, I remember a sense of going through a period of intellectual turmoil, an almost desperate desire for more formal education. The war set in motion some circumstances that served to stimulate my restlessness.

First, in 1943 Hal went to Washington, as I have mentioned, leaving me in Portland. While he was away I got permission to audit a medical school organic chemistry class. That helped to make up for my lack of science courses in college.

The most important influence was meeting Dr. Frederick Wulsin, who had become a friend of Hal's in Washington in the office of Research and Development of the Quartermaster Division. I visited Hal in Washington twice for a month each, and became well acquainted with his particular friends. Wulsin was the man who introduced me to Sheldon's three books.<sup>4</sup> He told me he thought Sheldon's somatotype concept was a significant contribution to research. I bought the books, swallowed them in about two weeks, and then sat down to really study them. I was enthralled.

Meanwhile, after the initial business of getting interested in the somatotype thing, I began to investigate who the people were who did know something about it. There was an old friend of Sheldon's, a man named Bill Turner, who had been an army aviator when Sheldon was down in Texas at Kelly Field. He had kept more or less in touch with Sheldon. I can't think how I happened to run into him, but he was the one who knew Sheldon was alive. It meant I had to meet him, of course.

Hughes: But you didn't immediately think, "Oh, then I can go and learn at his knee."

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<sup>4</sup>The Varieties of Human Physique. Op. cit.

William H. Sheldon (with the collaboration of S.S. Stevens). The Varieties of Temperament. New York: Harper and Brothers, 1942.

William H. Sheldon (with the collaboration of E.E. Hartl and E. McDermott). Varieties of Delinquent Youth. New York: Harper and Brothers, 1949.



Roll: Oh, no. I was preoccupied with possible ways I could learn to somatotype and take part in research that used it. I was intrigued that Sheldon was alive. I didn't have any idea what he was like; nor did I have any preconceived notions about liking or disliking him..

As it turned out, I first met Bill Laughlin, who was an anthropology graduate student at Harvard. His mentor was [Earnest Albert] Hooton, who popularized physical anthropology very much as Margaret Mead popularized cultural anthropology. Bill's family lived in Salem [Oregon], where his father was a well-known professor at Willamette University. Bill had come out to visit his family in Salem. I've forgotten who it was that put him in touch with me--probably Fred Wulsin. In any case, he had just spent the summer taking a seminar in somatotype from Sheldon at Columbia University in New York. He came to see me at my house on Wyndham Lane. (Incidentally, forty years later I learned from Fred Hulse (another anthropologist, who became my very good friend) that Bill couldn't understand how I could be dissatisfied with the obviously comfortable life I had. [laughs] In some senses, neither can I.)

Anyway, Bill thought somatotyping was a fascinating idea; and he said he could understand why I was intrigued. He gave me the names and addresses of people in Cambridge and Boston who knew Sheldon and were familiar with somatotype research. He suggested that I write to Hooton, which I did--and had a friendly response from him suggesting I come to see him at Harvard.

Hal and I were about to go east on one of Hal's business trips, so I went to Boston where I met Dr. Hooton at Harvard. In Boston I visited the Hayden Goodwill Inn where Sheldon had done his research on delinquent boys. There I had a long talk with Roland Elderkin, whom Sheldon treated a good deal as though he were the court jester. Elderkin was a social worker, who took the histories of the boys in the delinquency study. He was discoordinated, almost spastic, but exceedingly bright and uproariously funny. I met a graduate student named Stanley Garn, a star graduate student of Hooton's and Carl Coon's; now an honored professor about to retire at the University of Michigan in Ann Arbor. He was involved in two projects that were including somatotype. I met Sheldon's co-author, "Smitty" Stevens, who had developed grave doubts about Sheldon. And, oh yes, a very attractive man named Jimmy Andrews, an anthropologist who had worked on somatotyping with Hooton--who, incidentally, died recently. All these people knew Sheldon and had been involved in his projects in one way or another. Finally, I went to New York where I had made arrangements to meet Sheldon.

I must have talked to Fred Wulsin about the people I met in Cambridge and Boston. I imagine he had put in a good word with Hooton, who had been his mentor as a Harvard graduate student.

The Constitution Laboratory, Columbia Presbyterian Medical Center, New York

[Interview 3: March 17, 1990]##

Hughes: What happened at your first meeting with Sheldon in New York?

Roll: I had learned his address from one of my contacts in Boston. I wrote to him in June 1947. I told him of my interest in his books about somatotyping, and asked if I could talk to him about the possibility of my learning to somatotype and get involved in some research. He answered my letter and said he would be glad to talk to me. After that matters moved fairly fast. Hal and I went to New York in October. Sheldon made a date for me to come to talk with him.

It turned out that he was at the Columbia Presbyterian Medical Center in New York City. He had a small space in the Outpatient Department in Presbyterian Hospital, which was part of the medical school. His little enclave was known as the Constitution Laboratory.

I think I should begin by telling you something about the history of the Constitution Laboratory. After all it was about to become a central part of my life, although that seemed unlikely at the time.

A doctor named George Draper who was a professor in the medical school, was a pioneer in what is known as constitutional medicine. He was interested in what he observed to be differences in physique in people with different disease entities. He described physiques he called "ulcer types" and "gall bladder types," which he said were "fair, fat and forty." He observed that women who had cancers of the uterus had a different kind of physique from those who had cancers of the cervix. He also found differences in temperament that seemed to characterize those with different kinds of disease. He reported that polio patients tended to be exceptionally optimistic. An interesting idea--and I suspect he was right.

Hughes: Had he actually done research?

Roll: Well, he did research in the sense that he published his observations, including the numbers of patients he had observed. He became interested in somatotyping as a possible research tool. I don't know the details. I do know that he was sufficiently interested to bring the anthropologist C. Wesley Dupertuis to join him at the Columbia Medical Center in the early 1940s.

Wesley Dupertuis was a physical anthropologist trained by Hooton at Harvard. He met Sheldon through Hooton, and became his most devoted protégé. It would be fair to say he was, and is, a true believer. To my knowledge he never departed from orthodox Sheldonian criteria. He did a good deal of research, but it was not characterized by daring originality.

After Dupertuis had worked with Draper for several years--I don't know just how long it was--Draper retired. I never learned exactly how Dupertuis persuaded the powers that be at Columbia Medical Center to allow Sheldon to become the director of the Constitution Laboratory. I do know that the medical center did not pay Sheldon a salary. He was tolerated, but was not a part of the teaching staff. Dupertuis was allowed to recruit subjects in the outpatient clinics for somatotype photographs.

Several specialists with research interests cooperated with him. I remember two physiologists, who were interested in blood volume, worked with Dupertuis in recruiting a sample of about thirty-six men equally divided among the three most extreme somatotypes--markedly dominant respectively in endomorphy, mesomorphy and ectomorphy. Later I became familiar with this series, and even recognized several of the subjects--who were research fellows, lab assistants and so on. I don't remember the precise results of the study. I do remember that there were significant differences in blood volume among the different somatotype extremes.

There were also some interesting somatotype differences that were obvious in chest and spine x-rays that were taken as part of the study. I particularly remember a Doctor Ball, a radiologist, who observed that the extreme mesomorphs showed early arthritic changes in their vertebrae. He expressed surprise that such young subjects should show these changes. And the extremely ectomorphic subjects all had "carrot-shaped" hearts.

#### First Meeting, October 1947

Roll: In any case, when I went to see Sheldon in October 1947 he and Dupertuis were the sole staff of the Constitution Laboratory.

Sheldon asked Dupertuis to show me the somatotype photography unit in the outpatient clinic. There I had my first experience with the actual procedures involved. I particularly remember a woman patient who had had bilateral mastectomies. There she was, asked to take off her clothes, stand on a revolving, low pedestal, and have her photograph taken sequentially in frontal, lateral and dorsal views. Her comment was: "Jesus, Mary, and Joseph! What will they think of next?!"

As I remember it, I was in New York for several days, with Hal. We probably stayed at the Gotham Hotel, which was just off Fifth Avenue, and almost across the street from the Museum of Modern Art. I was free to do as I pleased during the day, so I went to see Sheldon two or three times.

I was enthralled with a firsthand encounter with what I saw as real scientific research. I was more eager than ever to be part of a research project. Looking back, I realize that Sheldon was at his best--he was charming, humorous, encouraging. I do not remember that he made any specific suggestions about what I might do. I do know that in the course of the next year or so Sheldon and I had a good deal of correspondence. With his encouragement I suggested to my friend Henry Dixon, the professor of psychiatry, and to Howard Lewis, the professor of medicine at the University of Oregon Medical School, that they invite Sheldon to give several lectures at the medical school. I gave them my version of the potential value of somatotype research and suggested establishing a research unit in the medical school. Of course, I would learn somatotype techniques and have a prominent role in such a unit.

Howard Lewis and Henry Dixon did invite Sheldon to Portland to give a series of lectures at the medical school. I don't remember that they gave him an honorarium, but I suppose they did. Lewis immediately began to talk about getting a Rockefeller grant to set up a research project, and Dixon was most enthusiastic. Lewis thought that with his influence with Dr. Alan Gregg at the Rockefeller Foundation he might be able to get a grant to set up a project. Four years later the Rockefeller Foundation did give a four-year \$100,000 grant (a lot of money in 1951!) for somatotype research in the Outpatient Department of the University of Oregon Medical School. By that time, I was a somatotype expert--and returned to Portland to be the executive director and research associate of the University of Oregon Medical School branch of the Constitution Laboratory.

In retrospect, it is pretty obvious that I was naive not to wonder why so apparently well-known, even important, a scientist occupied such cramped, inconspicuous quarters. As I recall, even that early I inferred from his remarks that he saw himself as a

"misunderstood genius." The perfect approach to my penchant for wanting to be helpful to the underdog, the member of a minority, and especially a "misunderstood scientific genius." In truth, I think there was a bit of this character trait in my marriage to Hal--defying prejudice against Jews. I also remember how much I was impressed that Smith College had given its highest honors to a black student, Harriet Pickens. I should add that it did not occur to me that she was the only black in the Smith College class of 1930.

Hughes: What interested you about the Sheldon books?

Roll: I came upon them after having spent every Thursday afternoon for fourteen years working as a Junior League volunteer secretary to the psychiatric clinic at the University of Oregon Medical School, which was dominated by Dr. Henry Dixon, who was a biological psychiatrist, as opposed to a Freudian psychoanalyst. There were several other members of the department. These were all clinical professors; they had private practices downtown.

Dixon was very much grounded in ruling out the possibility of organic disease before he would leap to any conclusions about psychiatric problems--a man with very shrewd medical insights. I sat and absorbed all of this, and was enormously interested in the variations of behavior which he described, elicited, and handled in patients who were admitted to the outpatient clinics of the University of Oregon Medical School hospitals.

Hughes: How were you getting this information?

Roll: I was the secretary of the clinic, so I admitted the patients and I kept track of who they were and called them in. Dixon saw psychiatric patients in a classroom. I don't know whether the course was one semester or two. I do know every medical student sooner or later was exposed to Dixon's psychiatric clinic. I was impressed by his line of questioning and the aspects of behavior of the patients that came out in the course of these interviews. I saw him do some rather remarkable things.

For example, one patient came in complaining of terrible headaches. That patient had been in every clinic in the hospital and nobody had been able to deal with his problem. Dixon just put his finger on the back of the neck of the patient and pressed somewhere in the general neighborhood of the pain. He asked, "Does it hurt now?" The patient said, "No."

Dixon simply wrote on a slip of paper, "Please note this patient has an embolism. Do the appropriate surgery and return to me." The man did come back a few weeks later, absolutely cured.

This is a pretty good illustration of the kind of a psychiatrist Dixon was. So I naturally admired him very much. I can't remember how I got the idea that the way people are put together and their behavior had anything to do with one another. But I have a hazy recollection of already having some such notion.

Hughes: You don't think it came from him?

Roll: I don't think it came from him necessarily intentionally, but in the course of what I was learning about psychiatric problems, this dawned on me. I'm by no means sure that I hadn't picked up some of that already. Seems to me my mother used to make comments like, "Well, you expect people that have such spindly legs not to walk straight anyway." So these kinds of ideas were on my mind. I was very much intrigued with human behavior.

So it was that after many years of this, I met Freddy Wulsin, who put me on to Sheldon's books. The thing that struck me was: Here is a way of describing people in terms of how the way they are put together influences their behavior. So I was first attracted to the psychiatric aspect of it, and my picayune interest in measurements and accuracy and objectivity as it became related to somatotype was a much later development. I walked into this totally without criticism and without any background to be critical about it. I should add that I learned to be critical rather quickly.

I think this pretty well describes how I became entrapped. Also, Sheldon was a persuasive and colorful writer. I've always loved thumbnail sketches of people, so I loved the book on temperament. He describes the behavior and physiques of a series of subjects. I was enthralled by the links he established between behavior and physique--or somatotype.

Hughes: You say he's a persuasive writer. What about a persuasive personality?

Roll: He had a persuasive personality, too. He was a man who could exert enormous charm when he wanted to. But it took a little knowing to begin to see where all the pieces fitted together and why. He came on as a genius who had been misunderstood. Little by little, one lost sympathy with this self-characterization.

I had forgotten how fast the final chapter in my marriage to Hal unfolded. I have also forgotten the details, which is just as well. I do know that I had begun to think about the possibility of a breakup five years earlier. For all that time the arguments against it seemed to me to outweigh those in favor. In the summer of 1948 I told Hal I had come to the end of my tether. He begged

me to stay--promised that I could do whatever I wanted about going back to school. I had already decided that his word in such matters would turn out to be unreliable.

I envisioned a divorce and arrangements for my new way of life very different from what happened just before I left Portland. I had assumed I would live in Portland, would take the two adopted children with me, buy a small house, and go to Reed College to fill in on the biology education I had missed at Smith. Suddenly one day Hal told me that if I kept the children I would take all his money. I was never clear about just how that would come about. However, I asked him if he was saying he wanted to take the children. He said, yes. I pointed out the kind of responsibility he would be undertaking. He was adamant.

It probably is not to my credit that I conceded the point to Hal. I realized that adopting children was not an idea I had suggested first. Actually, it was his parents who began the agitation for adoption when we had been married about five years. I must confess that I had never been heartbroken when I found I was not pregnant after all. When Hal decided adoption was a good idea, I went along with him. I have never felt I needed to apologize for disloyalty or stubborn opposition to anything Hal wanted so long as we were married. I was, I think, a "good wife."

The upshot of Hal's extraordinary revelation was that when he asked me how much I thought I needed per month by way of alimony, we agreed on \$400 per month, for four years, to terminate if I remarried. I also got a settlement of \$10,000, hardly a substantial deprivation for the president and majority stockholder in White Stag Manufacturing Company. My brother Alan was outraged. I merely felt that under the circumstances I was behaving in a "civilized" fashion. I should add, that I didn't have the remotest idea how I would earn a living. At that time I had no arrangements of any kind with Sheldon.

#### Executive Secretary, Constitution Laboratory

Roll: Even so I still assumed that I would stay in Portland. One day my brother Alan, who was still living with Hal and me, said he thought I ought to go to New York, where I could go to school and work with Sheldon. He reasoned that by my very presence I was making life difficult for everyone concerned, my parents in particular. A startling idea to me. After I thought about the dilemmas my brother suggested I decided his suggestion had merit. I wrote to Sheldon, who responded that he would find tasks for me

in the Constitution Laboratory, and would help me to find out about suitable courses at Columbia University.

In September 1948 I left my life in Portland behind me. I put the pieces of furniture that were clearly mine in storage, packed my personal belongings in the Pontiac coupe, which was also part of my settlement, and drove alone across the United States to New York.

First I found a residential hotel, where I lived for a couple of months, and then a small furnished apartment near Columbia Medical Center. I enrolled in a really tough pre-med course in zoology at Columbia. It was taught by a well-known Japanese-American professor at Columbia. There I learned all that became the foundation of my career as an anthropologist.

After I worked as a volunteer in Sheldon's lab for a couple of months, he decided I deserved a salary, and should be given the title of executive secretary of the Constitution Laboratory. By that time Eugene McDermott, who was the founder of Texas Instruments, had come to New York from Dallas on one of his several per annum trips. It turned out that he had discovered Sheldon in Boston and become deeply interested in the somatotype idea. He was interested enough to give Sheldon moderate amounts of money to support his research. He made small periodic grants to Columbia Medical Center to pay Sheldon a salary.

With McDermott I experienced the kind of good luck that I have enjoyed an unexpectedly great number of times in my life. He was so pleased with what I was doing and with my progress with learning to make somatotype ratings that he proposed to add enough to his grants to the medical center to pay me \$400 a month.

After some discussion McDermott suggested that I find a large apartment in which he could have a suite to stay in on his New York visits. I found a huge apartment (seven rooms, if I remember correctly) on 157th and Riverside Drive--with a beautiful view of the George Washington Bridge about eight or ten blocks up the river. McDermott also found a much smaller apartment in the same building for Sheldon, who had been living in a room in the medical students' residential hall. Both of them liked having me cook dinners for them fairly frequently--and as you know, I love to cook. So that was not a hardship.

Within a year McDermott was so enthusiastic about my potential usefulness to the somatotype enterprise that he set up a fund for \$100,000, which he and Sheldon called the Biological Humanics Foundation. Looking back, that sounds a little grandiose. However, I was made the treasurer of the foundation,



empowered to draw upon the fund at my discretion. Fortunately I don't have the embezzler's temperament, so I was not tempted to abscond to Mexico or Peru or Timbuktu. From it we paid for film and processing of somatotype photographs and various other expenses.

Next McDermott suggested that he pay me the value of my Pontiac and buy a large Pontiac station wagon, which really would be for my use, but under his ownership. Whenever some trip around New England turned up that involved McDermott and/or Sheldon we used the station wagon. In the end he gave the car to me, and I drove it over 100,000 miles, until about 1960.

Meanwhile, Sheldon introduced me to Dr. Paul Fejos, the director of the Wenner-Gren Foundation (which was still called the Viking Fund). There I met Fejos' assistant (later his wife), Lita Binns, who became one of my closest friends. She was about twenty-two, and Fejos called her "Minx," which a select few of her intimates and I still call her.

At this point Sheldon was beginning to work on Atlas of Men<sup>5</sup>, which obviously was going to be expensive to produce because it was all somatotype photographs. He wanted Wenner-Gren to make a subvention grant to Harper's. As you have already guessed, Sheldon hoped I could persuade Fejos to make the grant. I don't remember just how it all happened. In sum, so Minx told me later, Fejos thought the enterprise would be worth backing if I were closely connected to it. He made a grant of \$13,000.

Of course, in the end it was I who lost faith in Sheldon's handling of the photographs and data. Sheldon had asked me to be a co-author, which was pretty heady stuff at that point in my life. The more I thought of Fejos' trust in me and the more I thought about my own ethics, the less I wanted to be an author of a book based on dubious data. I told Fejos what had happened, and that I was not going to allow my name to be associated with it. After I humbly and profusely apologized to Fejos for being a party to his making the grant, he dismissed the matter as it related to me; he not very subtly indicated Sheldon had had his last interview with him and said: "I have a little black book and a very long memory--but I never worry about what is past."

The Sheldon story is much too long to tell in all its details. But I will give a brief account of the three years I spent working with him in New York. As you have seen, at age

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<sup>5</sup>William H. Sheldon (with the collaboration of C.W. Dupertuis and E. McDermott). Atlas of Men. New York: Harper and Brothers, 1954.

thirty-eight, with an AB in history from Smith College, and no specific training for earning my own living, I had a monthly income of \$800 a month, a rent-free apartment, and a late-model car as we started the 1950s.

I rapidly learned to do somatotype ratings that correlated almost perfectly with Sheldon's own ratings. Sheldon managed to get permission to take somatotype photographs of girls at Smith College, Mt. Holyoke, Vassar, Pennsylvania, a college in Northern New York, for or five Midwest colleges and universities--including Iowa, Illinois and Wisconsin. I took photographs of almost 4,000 college girls. I was involved in somatotype studies in which we took about 2,000 somatotype photographs of patients in two mental hospitals. I helped Dr. Frances Ilg to set up a child growth study at the Gesell Institute in New Haven, and somatotyped the hundreds of children who came there to the nursery school and as clients of Frances Ilg's guidance. In short, by the time I left the Sheldon domain I was a skilled somatotypist--in fact probably on a par with Sheldon, and ahead of the few others.

While I was in New York, I became acquainted with a remarkable number of well-known, even famous people, who were friends and acquaintances of Sheldon. There were people like Gerald Heard and Aldous Huxley. Lewis Mumford came to the laboratory several times. I came to know and have friends among the physical educators, who were interested in somatotyping. I also was included in a remarkable series of anthropology symposia at the Wenner-Gren Foundation, where I met Julian Huxley among others--and all the most prominent anthropologists of the day. It took a fair length of time after the Sheldon period for many of the anthropologists to believe I was not tainted by my association with Sheldon. For which I hardly blame them.

Unfortunately for Sheldon, I not only learned to somatotype by his criteria just as well as he did, but began to have serious doubts about the soundness of his method. After the first year I began to speculate in private about possible modifications that might correct the Sheldon methodology. I read some of the critical reviews of his books, and met some of his critics, who talked about the flaws they perceived in his method. For me the important point was, and is, that irrespective of my evolving attitude toward Sheldon, my interest in somatotyping as a research tool never wavered. It is forty-five years since I went to work with Sheldon in New York. Sheldon has been dead for fifteen years; I never saw him after 1952; but my interest in every facet of somatotyping has never flagged. There is the Cambridge University Press book Lindsay Carter and I wrote--500 pages, price \$125--to affirm the role somatotyping has played in my life.

However, I do not think that the scientific world would be impoverished if the somatotype concept had never been thought of.

### Sheldon's Background

Roll: Well, perhaps we should talk about Sheldon's life. Mind you, these are things I learned little by little. This is Sheldon's background. In short, at the time that he went to New York to take over Draper's Constitution Laboratory, he was already persona non grata. I have the impression that this was true at every major educational institution in the United States--quite an achievement! Some of them were willing to tolerate his presence, but none was willing to pay him a salary and give him a title.

The basic elements of the original story are remarkably well known by those who were around the University of Chicago in the late 1920s and early 1930s. I found this out when I wrote chapter one of the somatotype book, which touches on some of the aspects of Sheldon's personal story. An anthropology colleague of mine wrote a letter outlining the following story. Her version was almost incredibly like my impression of the drama:

Sheldon had a girlfriend whose name I blessedly forget. He called her Starlight, which was appropriately romantic. She was a beautiful creature. Sheldon showed me her photograph once. She was a beauty, all right. I don't know how long this love affair had been going on. I do know he had finished his Ph.D. in psychology, that he had then gone to medical school, first at Wisconsin, I guess, and did two years there and then went to the University of Chicago and finished his medical degree.

Through some connection he was in touch with a woman named Dorothy Whitney, of the wealthy New York Whitneys. She had moved to England and married a man named Elmhirst. The two of them founded a private school near the Dart River--seems to me the school was called Dartford Hall. It was well-known as a progressive school that catered to both American and English teenagers who were not happy at other schools. I have the impression that, in fact, the "other schools" were not happy with their erstwhile students.

In any case, Dorothy Whitney Elmhirst gave Sheldon a one-year grant to live in England, where he proposed to write a philospho-

religious book. He did in fact write his first book in that year, about 1935-36--Psychology and the Promethean Will.<sup>6</sup> Starlight wanted to marry him and go to England with him. He would have none of that. Why, I don't really know. I suppose this was one of the early manifestations of the, to me, well-known Sheldon perversity.

Starlight stayed behind and went to graduate school at Columbia. I don't know whether she was already working on a master's degree in sociology. That was what she did after Sheldon left. And he went off to England. He there met literati like Aldous Huxley, Gerald Heard, Christopher Isherwood, and God knows who else. I'm sure he met H.G. Wells and probably George Bernard Shaw.

Hughes: How did he get entree?

Roll: I think it was through Dorothy Whitney Elmhurst.

Hughes: She was interested in this religious/philosophical book?

Roll: She was interested in all kinds of things. There's a lot of fascinating history connected with Dorothy Whitney Elmhurst, with the British intelligentsia she knew, and with the school she and her husband founded. Dorothy Whitney had all kinds of connections, just as you would expect the Whitneys would. In any case, Gerald Heard and Aldous Huxley took to Sheldon, and were very much interested in his carryings-on about what he was going to put in his book.

Sheldon had already thought out his somatotype ideas, and had them pretty well formulated. He had pretty well thought through what he was going to do with the somatotype concept. So he had that to talk about as well as the book that he had contracted to write.

Well, the year and a half came to an end, and Sheldon returned to the United States, where he already had some lecture engagements. He touched base with Starlight in New York; told her that he would be back in a week or so, and then they'd get married. Of course precisely what went on, nobody can know. I gathered that he did come back from his lecture tour in a week or two. He learned that in that time she had married somebody else.

He went into a psychotic rage and wrote a letter to the new young husband, who became a well-known economist named Harriss,

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<sup>6</sup>William H. Sheldon. Psychology and the Promethean Will. New York and London: Harper and Brothers, 1936.

who is, I think, still alive. I saw his name sometime within the last ten years. I don't know what became of her.

He accused Harriss of stealing his girl. I think he put it more strongly than that--in fact, he threatened to kill him. Well, Mr. Harriss simply made copies of that letter and circulated it to all the deans and academic big shots he could think of. The net result was that Sheldon never had another paying job.

Hughes: How did he support himself?

Roll: Well, he tried a number of gambits. When did he come back?

Hughes: The trip was in 1936.

Roll: Well for one thing Sheldon had a hobby of collecting old American pennies, the big pennies--a hobby he had had since childhood. He put himself through college on his trading of old pennies. I imagine that he was still using this hobby as a stand-by.

Sometime in this period, he was in Chicago for a year or so. I think the Divinity School at the University of Chicago gave him some kind of a small sinecure that saw him through for a year or so. Then he went to Boston, where Hooton became interested in somatotypes. In fact he was greatly interested.

Hughes: Which makes sense from the little I know of Hooton.

Roll: Which makes sense, but Hooton was also a cautious man. He was not about to arrange for an academic post for a man of such dubious character. Hooton was smart; he'd spotted Sheldon as being difficult to handle.

Somehow or other, Sheldon also became acquainted with Smith Stevens, who was the director of the Psycho-Acoustic Laboratory at Harvard, which was in the department of psychology. "Smitty" Stevens was a technically oriented man. He liked the quantifying aspect of somatotype. Sheldon somehow beguiled him into collaborating with him as an author of the first book.

There was another man involved in this--and I must confess I never knew a great deal about him. He was William Tucker, an M.D., whom Sheldon had known at the University of Chicago. I suppose he must have been on the faculty of the medical school.

Hughes: The third author?

Roll: Yes. In any case, I don't know where the money for Sheldon's support came from. Perhaps little grants along the way. In any

case, he had his connection with Hooton. I think at this point he did some somatotype photographs at Harvard.

### The Hayden Goodwill Inn Studies

Roll: In this period he also met Emil Hartl, who was a benign minister cum Ph.D. in psychology, who was the director of what was known as the Hayden Goodwill Inn, which was related in some oblique way to the Goodwill Industries. I presume that Mr. Hayden was the founder of the Goodwill Industries.

The Hayden Goodwill Inn was an institution where two hundred delinquent boys were quartered. I assume that the inn had a connection with the Boston courts and that boys were remanded to the inn for six months or a year or whatever. They were boys from sixteen to twenty.

Sheldon started a study of these delinquent boys with an eye to determining whether physique was related to delinquent behavior, and vice versa. Hartl was an abject follower. Hartl also had an eccentric social worker named Roland Elderkin who did the case work for Sheldon. He became a sort of court clown. Very funny man, but quite mad.

So here was Sheldon with a place to live. He lived at the inn. Also, when he was in Chicago, after he had somewhat recovered from his pique over what Starlight had done to him, he married a girl named Milancy Hill. Milancy Hill was a Smith alumna whose mother was a classmate of my mother's. Milancy was a very bright, strange little girl, who later became a real beer alcoholic.

Parenthetically, I would say it was a peculiar mating, to say the least. Milancy went to Boston with him. They lived at the Hayden Goodwill Inn, which I would have found a strange place to live, thanking everybody kindly.

Hughes: Was she helping in his work?

Roll: Yes. But I think history was her thing, I'm not sure. I know she had done some graduate work at the University of Chicago. Also she did beautiful drawings and diagrams and tables. So, yes, she was helping. But she was not a very active or creative helper; she was just very bright. I later met her and got to know her some. This was 1949, when I went to the Midwest universities to do somatotypes of college women. By this time, Milancy was

married to a history professor at the University of Illinois in Urbana--and was a genuine beer drunk.

Hughes: After the war Sheldon was working on the connection between somatotype and delinquency?

Roll: Yes, he was working on the delinquent boys. But he and Tucker and Stevens had finished both Varieties of Human Physique and Varieties of Temperament.

Hughes: Do you know anything about the reaction when those books were published?

Roll: Yes, there were decided reactions. Some very enthusiastic. There were people who felt this was a fascinating idea; it was going to open up everything under the sun. But there were a few, I would say rather discerning people, who criticized the lack of documentation. Sheldon flatly stated all kinds of things about the distributions of physiques in the physique book, without saying how he had validated his assertions. He didn't publish measurements; he just flatly stated things. All of which is in my book.<sup>7</sup>

Hughes: And he also talked about the genetic basis of the somatotype, did he not?

Roll: Yes, he did, and he certainly didn't know much about genetics. Those who did know something about genetics took exception to what he had to say. There were numerous adverse voices. However, people like Aldous Huxley thought it was wonderful and immediately adopted a considerable body of the vocabulary, which he used in his writing. There was a small, popular rush to embrace a popularized interpretation of somatotyping.

In any case, when the war came, Sheldon suddenly had a brilliant opportunity to have a paid occupation. With his medical degree, he went into the medical corps as a major and was sent to Kelley Field in Texas. Sheldon was a persuasive man and had some limited but reasonably shrewd organizational ability. So he managed to persuade whoever had to be persuaded at Kelley Field to let him do the somatotype study of the military. These were flyers, and I presume they were officers' candidates for various positions in the air corps.

Hughes: Do you suppose the air corps' interest was in a selection system?

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<sup>7</sup>J.E. Lindsay Carter and Barbara Honeyman Heath [Roll]. Somatotyping: Development and Applications. Cambridge: Cambridge University Press, 1990.

Roll: Presumably. I don't really know.

Hughes: He was going to tell them what physiqes were suitable for whatever roles were open? .

Roll: Yes, I assume he was going to tell them.

In any case, there he was with the income of a major and happily running a project. He fell ill after he'd been there about a year or so. At first they thought it was brucellosis, traceable to a dairy which supplied unpasteurized milk to some facility at Kelley Field.

There's another character who got involved in this episode. I never knew what became of him and I don't know what his status was there. He was an M.D. and his name was Joseph Griggs. He was another rather inappropriate character. He was one of the ones who was very much interested in the brucellosis theory. Heaven knows what Sheldon really had; no one will ever know. I think it would be fascinating to know exactly what happened in this episode. As it is, I can only speculate.

Somebody came up with the idea that he had Hodgkin's disease. For that he was given massive doses of deep X-ray therapy.

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Roll: Anyway, he was in the hospital for some time. He completed the deep X-ray treatment, and finally got out of the hospital with a diagnosis of Hodgkin's disease. He then went back to Chicago to convalesce. By the way, it just dawned on me, that he married Milancy after the Kelley Field adventures.

Hughes: He left the military?

Roll: He left the military with the full disability pay of a major. So he had a lifetime income from that source, which should have been enough to get along on, the way he lived.

Hughes: Which was meagerly?

Roll: Yes. Oh, he was a real tightwad. He didn't believe in spending anything on anything that he didn't have to.

Anyway, it was then that he married Milancy. It was during the war. He eventually recovered from the X-ray treatments, and for the rest of his life of seventy-seven years, he had no recurrence of Hodgkin's disease. Every doctor I have ever talked



to has said that this is an almost impossible outcome. That no one who had had Hodgkin's disease in the 1940s survived for long.

I can't remember who suggested this to me or whether I dreamed it up all on my own, but it certainly makes sense: an hypothesis is that William Sheldon sneaked out of bed in the hospital one night, went into the lab, and swiped a slide--someone else's slide. Which was Hodgkin's disease. I got to know him well enough so I wouldn't put it past him to enact that whole scenario.

There was something self destructive about him. His behavior with the man who married his girl was self-destructive. It can't be regarded in any other way. So as I look back over his whole life, it seems to me that he just kept doing perverse things. And I think the Hodgkin's disease caper was probably his most dramatically perverse one.

In due time he really recovered and was a fairly healthy specimen thereafter.

#### Sheldon's World War II Studies

Hughes: Did he use any of the material that he'd gathered at Kelley Field?

Roll: Yes, he had the photographs, and I somatotyped all of them--re-somatotyped them as part of my learning process. Oh, yes, I'm familiar with that collection. The photographs in his Atlas of Men include many of the military photographs. I can't remember how many there were. Probably a couple of thousand.

Hughes: Did he ever draw any conclusions in terms of his selection process for pilots?

Roll: I don't know what he published about things like that. By the time that I might have been interested in seeing what kind of documentation, if any, he had, I was so thoroughly disgusted with the possibility of his coming up with legitimate data that I never bothered to even look for references. However, I'm sure there were some kind of quasi-publications. I don't think they were very definitive.<sup>8</sup>

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<sup>8</sup>William H. Sheldon. A Basic Classification Applied to Aviation Cadets. A.A.F. School of Aviation Medicine, Report No. 1. (Project No. 127).

Early Theories about Physical Type

Hughes: What do you know about the origins of his theory?

Roll: Well, for that I should go back and just simply read to you from my first chapter.<sup>9</sup> The hypotheses about physical types goes all the way back to Hippocrates and Galen and their followers--the idea of types of people who were susceptible to various diseases, like tuberculosis and so on.

Through the centuries, people came up with various speculations about how you could describe physique and disease. Then somewhere along the line--I couldn't tell you off the top of my head what century--various scientists got into connections between behavior and disease, and behavior and physique. It has been a fairly constantly recurring theme in some kinds of research. And of course phrenology is one aspect of it--a very specialized aspect in which the shapes of heads were read as reflecting the kind of behavior one could expect.

The most influential, certainly, was [Ernst] Kretschmer. And you know, Kretschmer didn't die until 1964. (He was born in 1888--eight years after my father.)

Hughes: Did Sheldon and he ever meet?

Roll: Yes, he said he did. But he never saw Kretschmer again.

Hughes: On that European tour?

Roll: On that European tour. And Sheldon, to my knowledge, never left the country again after his European interlude. He really was a pretty provincial man, if you think about it from this point of view. When I first knew him I was pretty provincial myself, so this had not occurred to me. In hindsight I perceive much that escaped me forty years ago.

Hughes: Well, Kretschmer's--

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William H. Sheldon. Use of the Somatotype in Standardizing and Objectifying the Adaptability Rate for Military Aeronautics. A.A.F. School of Aviation Medicine, Report No. 2. (Project No. 127).

<sup>9</sup>Carter and Heath. Somatotyping: Development and Applications, pp. 1-29.

Roll: Kretschmer was German, a psychiatrist, and a professor at the University of Marburg. He called the linear physiques leptosomic (those that we call ectomorphic). He described the short-limbed, muscular physiques as pyknic. He also had a mixed kind in the middle. I'd have to look up precisely what his total nomenclature was.

Sheldon recounts all this in Varieties of Human Physique. He gives Kretschmer full credit. He said that he discussed with Kretschmer the idea of quantifying the characteristics of physique so that you could concomitantly describe all three of the primary directions in which physique is likely to go.

Hughes: But Kretschmer's system was strictly descriptive?

Roll: It was strictly descriptive. In fact, the quantification was Sheldon's major contribution, and that was a real departure, very dramatic and very original. Nobody else had done that. There were many, many systems--Sheldon called them typologies. They described types of physiques.

There were typologies that had to do with behavior, too. Before Sheldon there were people who had considered the connections between the way a physique is put together and the kind of behavior you can expect. But nobody thought to quantify what they had observed. That was Sheldon's main contribution.

Now, the other contributions that came just before Sheldon were made by the Padua School of Clinical Anthropology in Padua, Italy. The school was founded by a man named di Giovanni, and carried on by his pupils, G. Viola and N. Pende. Sheldon's great friend, Sante Naccarati, was a student of that school. Naccarati was a young Italian anthropologist who was on a fellowship at the University of Chicago. He and Sheldon pondered together the various possible ways to investigate morphology, intelligence, and behavior. Twenty years later Sheldon talked about the singular tragedy that prevented their continued collaboration. Naccarati was killed in an automobile accident while he was on vacation in Italy during the summer of 1929.

So there were those elements. Kretschmer and the men in Padua were the most important.

Hughes: Were they also developing typologies based on physique?

Roll: Oh yes.

Hughes: And linking that with behavior, or with disease susceptibility?

Roll: I don't know. If I ever knew, I've long forgotten. I've never really investigated this at any length.

### Sheldon's Method

Hughes: Maybe you should say for the record exactly how Sheldon went about his quantification.

Roll: Yes. First of all, one of the most important things to remember is that Sheldon was, before anything else, a psychologist. His doctor of philosophy degree was in psychology. In fact, his dissertation was a replication of a project that he and Naccarati had done. He was interested, before anything else, in how physique and behavior were linked.

Hughes: Now, was that an acceptable linkage to make?

Roll: Apparently not. Well, maybe it was. Nobody got very far with it, just because it was all descriptive. To say that a long, thin person was likely to be paranoid doesn't get you very far.

Sheldon first conceived of the idea that there were three characteristics of physique which could be rated. Quantification really meant rating, not absolute measurements. In other words, what he said originally was that each component could be rated on a seven-point scale. There's nothing scientifically wrong with arbitrarily saying, "You shall rate from one to seven."

The three components he called: endomorphy, which in simple terms describes the fat component; mesomorphy, which describes musculoskeletal strength; and ectomorphy, which describes the linearity or the degree of stretched-outness of the physique.

He conceived the idea that if you took standardized photographs of subjects without clothes on, and posed subjects all exactly the same way, you could take these three photographs, and knowing the height and weight you could give them somatotype ratings. What developed from the height and weight was a perfectly conventional anthropological ratio, which was height divided by the cube root of weight.

There are dozens of these ratios that have been used in various contexts in anthropology.

Hughes: So that was an old idea?

Roll: That was an old idea. And it turned out to be a very usable one. In fact, we still use it. There's nothing wrong with it. But it could be that some other ratio might have worked out just as well. Who knows? I suppose there are people who understand mathematics and statistics well enough to have an opinion.

What he had were photographs. He had age and height, and weight. Height and weight were the important ones. He took no other anthropometric measurements. There were dozens of anthropometric measurements he could have used. Anthropologists up to that time had measured bone diameters and limb circumferences and head circumferences and heaven only knows what, but Sheldon did not do this. Now, I don't know why he didn't. In my ignorance, I didn't even realize what an omission it was until long after that.

His procedure was to lay a photograph out...Well, in fact, I don't know how he went at it to begin with. What he describes is sorting photographs for the dominance of a component, so that those who were the most mesomorphic were laid out here, and those who were most ectomorphic were over here, and those who were most endomorphic were over here. And then he gave a rating between one and seven in each component to each subject.

He had some wonderful arbitrary rules. The next one I can think of was: "The sum of the components should not exceed twelve." He later raised it to twelve and a half, if I remember correctly.

Hughes: Was there some basis for that limitation?

Roll: Not that I know of.

Hughes: Why would he lay down such a rule?

Roll: So it would be handleable, I suppose. Actually it does make some sense; I could see the point of it. Also, in afterthought, I think I can see how he got himself into the binds that these things led to.

Hughes: Could it be that because he was looking at a limited population, certainly ethnically, that he had observed that his population fell within certain parameters?

Roll: Well, it was a limited population. Even when he extended the population, he still had a limited view of the species.

I suspect maybe "Smitty" Stevens put those limitations on. He was a pretty reasonable man and he probably saw that you had to set up some limits.

The next rule was that the sum should not be less than nine or more than twelve. Later he raised that to twelve and a half.

He did have the brilliant insight that when you rate physiques (give a somatotype rating), you find that you shouldn't say, "So-and-so is a mesomorph." You should say that he's a "two-six-two" or a "four-seven-one," or whatever. It makes an enormous difference, even though the mesomorph component may dominate the others. It would be like comparing someone with the most recent boxing champion.

Hughes: Yes, I see. Both could be called mesomorphs, but their physiques are very different.

Roll: They both are dominantly mesomorphs, but if you describe both of them in ratings, the differences are immediately evident.

Hughes: Is that what the other systems hadn't done?

Roll: That's what they hadn't done. They retreated to using expressions like "extreme leptosome" or "extreme pyknic" or whatever.

### Physique and Behavior

Roll: Well, what Sheldon pointed out--and he soon had enough examples to justify this--was that the majority of physiques are more like each other than they are like the extremes. The majority of people are in the center of the distribution, which makes perfect sense once you get the notion. But his problem was that he was using these brilliant insights simply to go back to behavior. And that's where he fell on his face and had everybody in towering rages because he raised all kinds of emotional issues. Whereas if he had been primarily interested in describing human physique and incidentally thinking about what the possible correlations might be, the reactions would not have been so negative.

Hughes: Now, why was he so hipped on making the link between physique and behavior?

Roll: It was his temperament, I think. In the light of the kinds of prejudices he had, as I knew him, it's very difficult for me to

see how he got there. I can see no reason why he should have; he came from a presumably normal background.

Hughes: Do you think he had grandiose ideas of setting up a system that would explain human behavior?

Roll: Oh, yes. And he also, I'm sure, had grandiose ideas of modifying behavior. He had a lot of hate in him, which was awkward.

Hughes: I read somewhere that he had racist inclinations.

Roll: You probably read it in what I wrote. Inclinations is putting it mildly. His ethnic slurs were incredible. He referred to Italians as vermin. Vermin! It was one of his favorite attributions.

Hughes: On what basis? Intelligence?

Roll: Well, he attributed these things to intelligence as well, of course. I don't know. He used to say terrible things about the Japanese--and I remember there was a picture of Nehru on some magazine and he made some snide remarks about that. I was furious, because I thought Nehru was about the most beautiful creature I'd ever seen.

Hughes: What were his feelings about the Nazis and what they were doing during the war?

Roll: I don't remember its ever coming up.

Hughes: Did he have an idea about the ideal somatotype?

Roll: Oh, sure. His. [laughter] Only he was just a little bit off. As a matter of fact I ended up the first chapter of the somatotype book with his estimate of his own somatotype. Oh, yes, he thought that the dominance of ectomorphy carried magic with it. Later I could have pointed out a few dominant ectomorphs that would have disillusioned him.

Hughes: One of the major problems, as you later pointed out, was his insistence on the permanence of the somatotype.

Roll: Yes.

Hughes: Why was that so important to him?

Roll: Once he had given someone a somatotype, he wanted him to stay that way, and the fact that he might deviate from it was not in his vocabulary.

Hughes: Also, you can see that there would be problems if his overarching aim was to link somatotype to behavior. You can't have the somatotype changing all the time, because then you have an almost unworkable system.

Roll: Yes.

Hughes: There has to be a stability which is predictable.

Roll: Actually, I've thought about that and I'd love to be around when somebody thinks of a way to handle it. I've often wondered how much a temperament changes with dramatic changes in weight. Somatotypes change rather dramatically, but those changes are related to the inverse relationship of weight and height, which has to do mostly with fat. In other words, the degree to which mesomorphy can be changed with really rigorous training is limited.

It does change, of course. There is a decrement in mesomorphy with age, even with good exercise. So there are a lot of subtleties to this method that aren't easily handled.

There are trends, and extreme somatotypes tend to behave more like each other than they behave like extremes of another component. Or at least that would be true of extreme ectomorphy versus extreme mesomorphy. Endomorphy is a little different. I often wondered how Margaret's [Mead] behavior varied. She gained seventy pounds or so in the course of her life. It had to change her behavior some way. Just how much, I don't know. It certainly must have changed her mobility.

Hughes: That, if nothing else.

Roll: That if nothing else.

But Sheldon's insights were wonderful in developing his scheme of describing physiques. There us no question about that. As long as you stuck to description and didn't go off the deep end of what you were going to do with your descriptions. There were some basic things that appealed very much to me; the orderly part of it was fine. Also, I conceded by the experiences I had with various samples of people that we looked at, that there was a behavioral aspect to it.

We did somatotype studies of two different populations of women in two big state mental hospitals. I got so I could give the diagnosis just by watching them come into the room with their clothes off. I used to do it just for the fun of it, and then check on what the diagnoses were.



Hughes: So you believe there is a grain of truth to an association between physique and illness?

Roll: Oh, yes. For example, Sheldon made a wonderful observation that if you ask a psychotic schizophrenic to extend the arm in rigid extension, which is part of taking a somatotype photograph, the subject immediately relaxes it. You cannot get a schizophrenic to hold the arms at extreme extension.

When I was at the University of Illinois photographing freshman girls, I encountered a girl who illustrated Sheldon's observation. I was working the camera and somebody else was doing the posing. The girl doing the posing asked the subject to extend her arms and hold them down. No go. I said to myself, "What's going on?" Finally, I said, "You do the camera; I'll pose her." Which I did. No go. That was one of the three or four photographs I stole out of the collection. I still have it. That episode was impressive.

I watched the girl go out of the room and then followed her to the locker room. She was really spaced out, to say the least.

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Roll: Later I talked to Laura Hulse, who was the chairman of the Department of Physical Education, under whose auspices the study was being done. I asked her if she knew that girl. She said, "Why do you ask?" I said, "I think she's a little schizzy." She said, "That's very interesting. The health department has decided the same thing." In the week that I was there, she was hospitalized in some kind of mental institution.

Another aspect of this subject, which is very, very important is that she was only a '1' in mesomorphy. She was highly ectomorphic with plenty of endomorphy, but no musculoskeletal system to hold her together.

Hughes: Was that a pattern that you noticed with schizophrenia?

Roll: Oh, yes. Sheldon observed that if a subject had the high ectomorphy, low mesomorphy physique of this subject, plus whatever else goes to bring on a psychosis, it would be schizophrenia--hebephrenic schizophrenia. I think that he was right. That kind of schizophrenia is also likely to be catatonic. The subject simply stands in a corner and withers away. It raises some very interesting questions about therapy. Now, it may be that if this line of research were carried to its logical conclusion, people who start out with the basic concepts of somatotyping but with other insights, something very interesting might come of it.

I've always thought that [an association between physique and illness] was there. I have left it strictly alone as far as any public or published remarks are concerned, because I do not have the background to deal with it. I have some intuitions and some informed observation, but there isn't anything I can say that would be scientifically defensible.

- Hughes: Didn't Sheldon come up with the idea that dysplasia is somehow tied in with psychological problems?
- Roll: Yes, he did. But he never did a lot with dysplasia. He should have. Dysplasia is the great, uncharted field. It could be wonderful.
- Hughes: Nobody's working in that area?
- Roll: Not really. You know, most people cannot think in more than two dimensions at once to save their souls, and somatotyping involves thinking about the three-dimensional physique in time, in environment, in health. You have to be able to think of all those things more or less simultaneously to deal with what it is you're looking at. The extremes are a lot easier to deal with.
- Hughes: I read that Kretschmer rejected a three-dimensional scheme.
- Roll: Yes. Well, he rejected the idea of quantifying three dimensions.
- Hughes: And you think that was because people have trouble thinking in three dimensions?
- Roll: Not necessarily. I do think it requires an enormous interest in all the dimensions of human behavior. And I don't think a lot of people have it. You and I are enormously curious about how people behave, and we ask, and we look. But not everybody does. You make some complex observation about the behavior of a person to most people, and you get a blank look. There are so many taboos about how you judge people, particularly if they're supposed to be people you have accepted. God forbid you should criticize your grandmother. [laughter] And there's just an awful lot more to it than gross somatotypes. Somatotype's just a start.
- Hughes: You mentioned Dupertuis. Now, did he carry the link between somatotype and disease any further?
- Roll: Yes, theoretically. But to my knowledge he never did anything very spectacular about it. If he published anything that said anything important, I missed it. Until recently, he was publishing various things.

More on the Constitution Laboratory

Hughes: Who was in the Constitution Laboratory when you first went there?

Roll: Sheldon, and Dupertuis, and Dupertuis's wife was in and out. There were people who were not permanently attached who came and went. It was only three rooms; no big deal. By the time I got there, there was a doctor named [Alvan Leroy] Barach, who was a phenomenon with which I would have been happy not to deal. He had nothing to do with the Constitution Laboratory; Columbia just couldn't find a place to put him. He invented an early model of an iron lung.

Hughes: Those were the polio days.

Roll: Yes. There were three small rooms. One was Barach's. I remember his had a window. The next one was Sheldon's, which also had a window, and then there was a fairly large outside room. Across the hall was my friend [Richard, now Sir Richard] Bayliss in the Biochemistry Laboratory.

Hughes: You were working with the outpatients. Every outpatient that came along?

Roll: No. In fact, I don't really remember how the subjects were recruited. Somewhere down in the outpatient clinic there was a set up with a camera and scales and strobe lights.

Hughes: What were patients told?

Roll: "We want to take a medical photograph." The first time I ever saw this procedure going on was when Dupertuis was there. Dupertuis and his wife were taking the photographs.

Hughes: Would most people just docilely allow themselves to be photographed?

Roll: Yes. Once in a while someone flatly refused. I don't really remember an awful lot about the clinical population at Columbia because I spent a great deal of my time photographing college girls. That came to an abrupt end when I went back to Portland on the Rockefeller grant. Sheldon's Hodgkin's episode was early in the war, so he probably went back to Boston in 1944 or so. That would have given him a year and a half or so to work on his delinquency study before he went to New York.

Hughes: Yes, I have it here that Draper retired in 1945, and in 1946 Sheldon joined the Constitution Lab with the nominal title of director.

Roll: He had finished up his study at the Goodwill Inn enough so that he could begin to write his book. When I met him he was already in New York.

Hughes: And the book came out in '46?

Roll: Varieties of Delinquent Youth didn't come out until 1949. It was in manuscript when I went there in September of 1948.

Hughes: Did he have trouble finding a publisher?

Roll: No, he had trouble urging the publisher to undertake all the photographs. He had a friend at Harper's, Gene Exman, who had had some connection with the University of Chicago, I think. Gene Exman was a very benign, very nice man. He was the head of one of the departments at Harper's. It was not a trade book. He didn't expect a large circulation. Harper's already knew from the two early Variety books that they weren't going to get a huge circulation. But Exman did manage to push through Varieties of Delinquent Youth, which is a fat book.

When I went to New York in September of 1948, the manuscript and proofs were going back and forth to Harper's. It was one of my early duties to take manuscript parts down to Harper's. I became acquainted with the woman who was in charge of the manuscript. I suppose she was a subeditor of some sort. I remember she always called the somatocharts "the voluptuous triangle." [laughs] Marvelous. So I got acquainted with the Harper business early.

Shortly after I got there, Sheldon began making plans for the atlas [Atlas of Men, 1954], and was laying out photographs for it. That was when I was delegated to go down and talk to Dr. Paul Fejos at the Wenner-Gren Foundation, which was known then as the Viking Fund. Dr. Fejos authorized a \$13,000 grant to help pay for the reproduction of the photographs for The Atlas of Men.

Hughes: Was Sheldon willing to demonstrate his technique to anyone that seemed interested?

Roll: Good question. He always sounded as if he was willing, but I was the only person that applied myself to it with such thoroughness and tenacity.

Hughes: He wasn't secretive about it?

Roll: No, he wasn't secretive, but he let you know that he thought that not everybody was going to be able learn it. Which is true, as a matter of fact.

Then there was Eugene McDermott who came and went. Eugene McDermott was a most interesting character. He had a master's degree in physics from Columbia, came from Brooklyn, and with his master's degree in physics he went to Texas, I suppose, in the 1920s. He founded a little company called Geophysics Incorporated. He used a kind of radar system for finding oil--in fact he invented it.

Well, Geophysics Inc. developed into Texas Instruments in due time. By the time I knew Mac, he was a very wealthy Texan, a very sweet, small man with cornflower blue eyes. He had stumbled upon Sheldon somehow or other. He got hold of the book on temperament, I think. He was married to a harridan who was also a little mad, I think. Anyway, he looked up Sheldon, who gave him valuable insights and helped maneuver him out of his dreadful marriage.

Mac also had a drinking problem, as lots of Irishmen do. I remember I had a bottle of whiskey. I had stopped drinking entirely because I couldn't afford to pour drinks for everybody, so I just quit. But somebody brought me a bottle of whiskey. It was about three-quarters full, and it was out on the kitchen shelf. McDermott came to town. I noticed that the whiskey level in the bottle was rapidly sinking over a few days. Apparently, he really had a problem.

Anyway, he was very much impressed with what I was doing, and promptly needled Sheldon into paying me. I guess he anted up the money. He also kept doling out sums of money for Sheldon. This was Sheldon's current source of outside income. By the time I'd been there a few months, I was being paid very well.

Hughes: Why was McDermott particularly interested in somatotype?

Roll: He was interested because, through Sheldon, he had gotten some insights into, and some help with dealing with, his wife. I don't know what Sheldon told him about her physique; I never saw her. I never knew how he explained all this. I do know McDermott became a true believer. There was no question about that. He used to talk a good somatotype. I don't think he really quite understood what was going on. But he liked it.

I've forgotten how long I had been there, but he set up a fund of \$100,000 to run the show. I was paid out of that, and paid for all the somatotype trips to do the studies of the college girls. I became the secretary and treasurer of this fund. Of

course \$100,000 then was a considerable amount of money. Mac gave me total access to it; I could have gone south with it.

Hughes: And Sheldon was equally willing to let you do what you wanted to do?

Roll: Not really. He was a little worried about McDermott giving me a little too much leeway but he couldn't think of any good way of doing anything about it.

### Roll's Somatotyping of Women

Hughes: Tell me exactly what you were doing.

Roll: Well, first I took all the collections of photographs Sheldon had and somatotyped them. Then I compared my ratings with Sheldon's.

Hughes: And were you close?

Roll: Oh, yes. My correlations with Sheldon's ratings were about .99.

Hughes: Why do you think you were good at it?

Roll: I really don't know. I think there's something innate in the way people are able to look at things. I was interested in the way human bodies are put together and began to see the little differences.

We had a table of height divided by cube root of weight which separated the somatotypes to some degree. In fact, considerably. And then as time went on, I discovered that there were some that just didn't jibe with the appropriate ratio. That's how I began to think of strategies for modifying Sheldon's criteria.

Hughes: But that was some years later, wasn't it?

Roll: No, early on I knew I was having trouble with some of them.

Hughes: Did you talk over the difficulties with Sheldon?

Roll: Yes. I asked him why things looked that way to me. He dismissed such things with great impatience, which suggested to me I might be on to something. I wasn't sure what I was on to, but I went on pondering the problem.

Sheldon had maintained a connection with the physical educators from the beginning. In fact, nobody else, to my knowledge, had ever thought of using photographs to describe human physique except the physical educators who took posture pictures, which certainly was facing up to some aspects of human physique. So the physical education departments were the ones that were friendly to the idea of having students photographed.

Hughes: The physical education departments had a very different purpose in mind, did they not, for the use of these photographs?

Roll: They were interested in posture, and they separated people out according to their own criteria, for example, those who had scoliosis.

Hughes: But they weren't interested in the link between physique and personality?

Roll: No, they weren't interested in personality. They were interested in structural behavior.

So through Sheldon's physical education connections, we set up a program of doing somatotype photographs of freshmen in the physical education classes at the University of Illinois, Purdue, Denison University, the University of Wisconsin, and the University of Iowa.

I sallied forth and drove to the Midwest and went to all these places.

Hughes: Without Sheldon?

Roll: He didn't go. I took two young women, younger than I, with me. It was a wild trip. That was 1949, I think, and in '50 I did Vassar and Smith and the University of Pennsylvania and Temple.

Anyway, I took about three thousand photographs of college girls.

Hughes: Sticking very closely to Sheldon's protocol?

Roll: Oh, yes, entirely. And without any anthropometry.

Also in that period we did Rockland State Hospital, which was a mental hospital, and Worcester State Hospital in Massachusetts. I can't remember whether there were any others.

Meanwhile, one of Sheldon's more remote colleagues re-photographed the class at West Point that had been photographed in

its first year, and then re-photographed at the beginning of its fourth year. Which was very interesting.

Hughes: Sheldon had done that first year?

Roll: Yes. And it was under the auspices of the Constitution Laboratory that the class was done the fourth year.

Hughes: Were there changes in somatotype?

Roll: There were some very interesting changes, which of course he ignored. I've had a lot of fun with that series.

Hughes: What was he saying to himself, do you suppose, when he saw these changes?

Roll: I can't imagine. There was also a set of photographs of a class at Princeton. Various series kept turning up. I was kept busy.

Hughes: What did he think of you, Barb?

Roll: I think he was a little puzzled about what to do about me.

Hughes: You were probably more than he bargained for.

Roll: Yes, I suppose so. Well, things began to crack a little in due time. I remember two things he said which showed me he did have some good insights. He said, "One thing I can be sure of, wherever you are, something's going to happen." And the other one was, "You are the quintessential Briton. You're going to lose every battle but the last one." [laughter] He knew when the last one came, too. He lost his temper and said he didn't want to see me again, and changed his mind shortly thereafter. But I really didn't want to see him. I said, "That's fine; I feel the same way." [laughs] And I never did see him again. Ever.

Hughes: Well, let's work up to that. We're not quite there yet. Before that, were you working quite comfortably with one another?

Roll: Oh, I suppose you could say it was comfortable. I think that probably it would be fair to say that I have an enormous capacity for enduring tedium and for keeping my mouth shut until there seems to be some good reason to do otherwise. So I just exercised an enormous amount of self control. I certainly knew I was building up a head of steam.

Hughes: How was he treating you on a day-to-day basis?



Roll: Oh, very well. He was very friendly. But I worried him, there was no doubt about that. I don't know how to describe it. I had to work my way through being impressed and sensitive to him, his great charm when he had it. My brother Alan, who was really remarkable, before I left for New York, asked me, "Is it the ideas, or the man?" And I said, "All right, that's a good question. In the end, it's the ideas, I'm sure of that. I know that I'm getting into something that's going to be very difficult. It's going to be like a very bad swamp, but I will come out on the other side safely." Which I did. Sometimes I thought I wouldn't. It was in many ways a very destructive experience. I'm not sure how I had enough ego to survive all that.

Hughes: What were Sheldon's feelings about women?

Roll: Ambivalent. I think that he had just missed being homosexual. He wasn't, but I think he could have been. He enjoyed the conquest of women; he always had female hangers-on.

Hughes: Lita Osmundsen called him a "percentage man."<sup>10</sup>

Roll: What is a percentage man?

Hughes: She means, apparently, that if you have enough women around you, a certain percentage will succumb. That was Sheldon's operating principle, according to her. [laughter]

Roll: That's a pretty good description. He liked having young women around.

Hughes: What came out of those college studies?

Roll: Altogether, we collected, between the Midwest and the Eastern colleges, almost three thousand college girls, which together with the women that Sheldon had photographed in mental hospitals, and women in the clinical samples, provided a pretty good distribution. We had a large enough sample of female somatotypes to give us a fair handle on the most likely distribution of female physiques in the United States. Sheldon's notion was that these would become the basis for an atlas of women.

On my own, I had counted up all of the women's somatotypes in the Constitution Laboratory files. So I knew what the distribution was for female somatotypes.

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<sup>10</sup>Telephone interview with Lita Osmundsen, March 13, 1990.

Sheldon performed an interesting trick with somatotype frequencies. He published the incidence of each somatotype in such a way that the reader would infer a greater total population than he actually had. He said, for example, that about three 1-2-7s would be found in every thousand subjects. In other words, he did not arrive at this figure by counting them. It was an estimate, but he was brilliant at estimating. When I did some counting in a literal-minded way, I found that he was about right.

Sheldon's estimates were based on males. I counted up the women. One thing I wanted to know was whether I was biasing my ratings in some way, because if there were hills and valleys in the distribution, I would know something was wrong. Well, it turned out that it was about the way it should be. So it seemed to me that we had a good basis for an atlas.

The [women's] atlas, as it turned out, never came to be; we never got it done. Of course, I left before it could be done, but Sheldon could have done it afterwards himself.

Hughes: Had Harper's been approached?

Roll: By this time Harper's was disenchanted and was not about to publish an atlas of anything. The purpose of the photographs of women was an eventual atlas of women. Sheldon made a practice of announcing his next book, whether it came to be or not. In Atlas of Men he wrote that there would be a forthcoming Atlas of Women, which there wasn't.

Meanwhile, I was going to school in the evening at Columbia, taking courses in things like pre-med biology/zoology, which was very tough, I might add.

Hughes: Was this with a Ph.D. in mind?

Roll: Eventually.

Hughes: But also helping you with what you were doing.

Roll: Yes. It was an aspect of my education that had been neglected. There was something else I audited--a course in genetics. Also I used to go to the genetics symposia which gathered together all kinds of interesting people.

By the time I left New York, I had begun to think of myself as an anthropologist. I went to anthropology meetings. The Wenner-Gren Foundation had five or six dinner symposia with all kinds of people. I remember one of them was Julian Huxley.

Julian Huxley was one of the most articulate speakers I have ever heard. He was remarkable.

Hughes: He spoke on anthropology?

Roll: I've forgotten. But something apropos of evolution and I suppose paleontology and fossil man and so on. There were symposia on genetics, both at the Wenner-Gren Foundation and at Columbia University. It was very exciting.

Hughes: Did Sheldon have a formal background in genetics?

Roll: No.

Hughes: What was the basis for his making statements about the embryonic origin of the three components?

Roll: None whatever. He did know something about embryology.

Hughes: That would come from his medical school education.

Roll: One of his most remarkable fantasies was that endomorphy derived from the endodermal layer of the embryo, mesomorphy from the mesoderm, and ectomorphy from the ectoderm. The basis of his fantasy about the superiority of dominant ectomorphs was because the ectoderm was where the neurological structures and the skin originated. He had a very high opinion of fine skin. [laughs]

Hughes: Did he himself have fine skin?

Roll: Yes, he did.

Hughes: And he was an ectomorph?

Roll: He was a dominant ectomorph.

Hughes: It all fits together, doesn't it?

Roll: Yes, it does.

There wasn't all that much genetics to be formally instructed in. He had had no formal training in genetics to my knowledge. So he was attacked by people who did know something about genetics.

Hughes: Yes, I can imagine.

Problems with Sheldon's Method

Roll: I was soon exposed to hearing his peers being sharply critical.

While I was completing the women's material, the Atlas of Men was going forward. The undermining of my confidence in what he was saying reached a critical point when we started to assemble the somatotype photographs for the atlas. Sheldon opted for a large page size on which there would be two 5-inch by 6-inch somatotype photographs per row and three rows. This meant six photographs per page. In the end there were over a thousand photographs--which is a lot of photographs. The whole procedure of choosing them struck me as odd.

Hughes: How did he choose?

Roll: The arrangement made good sense. He always arranged the material beginning with the lowest ratings in endomorphy. So the ones in endomorphy would all be together. The first picture was 1-1-7, the next was 1-2-6, then 1-2-7, and so on. Next came the 2s, the 3s, the 4s and so on. That was fine.

An important purpose of the atlas was to show each somatotype at different ages. I think the foundations for my eventual iconoclasm were laid when Sheldon laid out photographs of given somatotypes at several ages between eighteen and sixty-five. There they were with the changes in weight allegedly common to most people as they grow older. The eighteen-year-old 4-4-4 did not look much like the purported sixty-five-year-old 4-4-4.

Sheldon had calculated extrapolations to account for weight changes over time. He devised separate tables of height divided by cube root of weight for all the somatotypes at ages eighteen, twenty-five, thirty, thirty-five, forty, forty-five, fifty, fifty-five, and sixty. The idea was that age eighteen to twenty was the base age--a base that was chosen because Sheldon's early samples were college students.

It is important to realize that Sheldon's somatotype samples were all cross-sectional. He did not have serial somatotype photographs of the same subject taken over long periods. Therefore, when he made somatotype photographs of men older than eighteen to twenty, he recorded their present height and weight, and asked them how much they weighed at eighteen or thereabouts, and recorded that as though it were an accurate measurement. Later, he examined the photograph, considered the present height-weight ratio and the ratio at age eighteen, when the subject allegedly weighed twenty-five pounds less. Voila! A 4-4-4 at age

forty-five. Assuming he was correct about his eighteen-year weight, his height-weight ratio was perfect for a 4-4-4. Now he had the height-weight ratio. Sheldon had extrapolated for his table for men aged forty-five.

Sheldon built this elaborate trap for himself in defense of his assertion that one's "morphogenotype" is reflected in his somatotype at age eighteen. Thereafter, the phenotype differs from the eighteen-year somatotype, but he gave the subject the rating that would have been appropriate at eighteen.

As I learned to give somatotype ratings, I started with the series of college students. As I became more proficient, I rated series of mixed ages. I had the nine tables of height-weight ratios for ages eighteen to sixty for reference. To begin with, I simply applied Sheldon's rules, without questioning the logic. After all, who was I to question "the scientist?" Besides I liked the challenge of learning to deal with all the intricate details.

I was puzzled, startled, and alarmed when Sheldon began to fudge on choosing suitable examples of somatotypes at given ages. I saw him choose a man of thirty-five who had the height-weight ratio suitable for Sheldon's extrapolated ratio for a man of forty-five. He simply changed the ratio and put the man in as an example of his somatotype at age forty-five. I came to realize that he repeatedly adopted this strategy. I was uneasy.

I should digress here to explain how we prepared the photographs for the publisher. In order to fit six photographs on a page, we needed to fit the three views of our subjects on four-by-six cards, instead of using the original five-by-seven prints. I found that, using a very fine sharp scissors, I could cut out the three views of a subject and paste them on four-by-six cards. It was a tedious task demanding enormous patience and great care to avoid changing the body image. As I may have said already, I have a considerable tolerance for tedium if the objective seems important.

Dr. Fejos, by the way, had already raised the question of distortion through inaccurate cutting out. I showed him examples of what I was doing. He was reassured.

Well, the day came when Sheldon disappointed me beyond redemption. He started by saying he really didn't have a good example of a 1-1-7. He picked up a photograph (from the Harvard series) that he had rated 1.5-2-7. (I agreed with that rating, incidentally.) He said, "Now if you trim just a little bit off his back in the lateral view, and a little off the frontal view, he would be a perfect 1-1-7." I was horrified, but followed his

instructions. He was right--the boy did look like a 1-1-7. Next, of course, he changed his height-weight ratio to fit a 1-1-7.

I thought a lot about the ethical dilemma Sheldon had created for me. I resolved it a little later. Meanwhile he also had laid an interesting trap for himself. This is worth recounting. After he set up his seven-point scale, he had to deal with people whom he said were 3-4-5s at eighteen. He also came across subjects who sounded as though they had been 3-4-5s, twelve or fourteen years earlier, but weighed a lot more than Sheldon's extrapolated tables called for. In the case of photographs for the atlas, the easiest course was to change the age to fit the weight. I, of course, became increasingly uneasy about the implications of his solutions.

On another aspect of Sheldon's research: Sheldon never was directly involved in a growth study. His approach was to predict what somatotype a child would have as a young adult. This meant he needn't pay a great deal of attention to the height/weight data through childhood. Consequently, on the rare occasions when he had occasion to look at somatotype photographs of children, he extrapolated their data to age eighteen; whereas for subjects older than eighteen he extrapolated from age eighteen.

Sheldon instructed me: "You always ask, what did you weigh when you were eighteen years old?" It was an unbelievable performance. I still don't know why I didn't just go reeling out of the place immediately.

I was extremely skeptical about hearsay data--expecting an accurate recollection of height and weight twenty years or more earlier. I decided to test my own memory.

##

Roll: My recollection was that when I was sixteen--and was a very late developer--I weighed ninety pounds. And I believed what I said. When I returned to Portland a little later, I asked Dr. Selling, who had been our family doctor, and by now was my personal friend, if he still had the record of what I weighed at sixteen. He said, "Yes, I think so." He looked it up, said, "A hundred and ten pounds." So much for accurate recollection!

Later I told the story to Sheldon, and asked, "Do you think other people are more accurate?" He just snorted and let it go. So far as I could tell, this sort of thing didn't shake him. Well, I brooded about it.

Hughes: Did he respond to his critics?

Hughes: Did he respond to his critics?

Roll: Oh, yes, with some very evasive, misleading comments. You know how politicians answer their questions. That's how Sheldon answered his--by circumlocution.

In the somatotype book, Lindsay Carter and I made a considerable point of the fact that Sheldon's tables of height/weight ratios corrected for age were built on hearsay measurements of height, weight, and age. When he got to his trunk index, it became even worse. There he asked for the maximum weight, and based something or other on that. Too much. In any case, I resolved the ethical problem. I went down to see Dr. Fejos.

Incidentally, I don't think I've mentioned that Sheldon had asked me to be a co-author of this magnificent volume, which I must say at that stage of my life was a pretty alluring idea.

Hughes: Now, this was the Atlas of Men?

Roll: The Atlas of Men, which was to be authored by Sheldon, Honeyman, and McDermott. So I went down and told Fejos that his worst suspicions had been realized.

Hughes: Why had Fejos been suspicious?

Roll: Well, because he knew that the pictures were being cut out. In order to make them conform, the pictures were printed three views: the frontal, lateral, and dorsal, on a five-by-seven print. In order to make them conform to the page size without a lot of very elaborate work on the part of the publisher, we cut the photographs out and pasted them on a very carefully made board. I remember marking them all so they were exactly the right spaces apart, and so on. In fact, I came across some of that stuff among my papers.

Hughes: Now, what was Fejos concerned about?

Roll: Fejos was concerned about the authenticity of the data that was presented. He had been present at any number of meetings where somatotype was discussed, and questions were raised about lack of data and not publishing raw data, just publishing the conclusions.

Hughes: But in reference specifically to cutting out the photographs--was he worried about inadvertent errors when you were cutting them out, or was he thinking about deliberate intent?

Roll: He said he was worried about inadvertent errors, but I think that he really was thinking beyond that. Fejos was a very sharp man. He was no fool. So when I told him that the changes were deliberate, I said, "Well, I'm not worried about inadvertent errors because I either cut them out right or threw them away and got a new print."

Well, I bought tiny little fine scissors, little sewing scissors. I suppose people use them in making lace or something. He said, "Well, that's all right. I don't blame you. You shouldn't have your name attached to anything like that."

At this point, I knew that I had come to a very important bridge. If anyone had asked me, hypothetically, how I would handle such a dilemma, I would not have been able to tell you whether I would have succumbed or cried "Havoc!" I was terribly pleased when I realized that I had chosen the ethical decision. It really sustained me for a very long time--still does--to know that when it really came to knowing temptation I resisted.

Of course, my God, in afterthought, who could want to be associated with that? But at the time, it seemed like an enormous plum to be a co-author of what I felt sure was an important book. So, I got across that one. .

What did Sheldon do then? Oh, he quickly found a substitute. I remember the little girl; I can't remember her name. She was a medical student. It didn't bother her any. She did what Willy said.

Hughes: Did this episode change anything?

Roll: No, I just said I didn't want to be an author of the atlas.

#### Somatotype Project at the University of Oregon Medical School

Roll: I don't remember the timing, but I think that the Rockefeller grant must have come through by then. While I was away in New York, Howard Lewis at the medical school in Portland had kept on applying for a fund to support a somatotype project at the medical school in Portland.

Hughes: Was he the one that had connections with Dr. Gregg at the Rockefeller Foundation?



Roll: Yes. The grant was for \$100,000, out of which my salary was paid. Sheldon talked to a young doctor [Chesmore Eastlake] who worked with Dr. Barach. I suppose he was a resident, or perhaps a fellow. Sheldon talked him into coming out to Portland to do the medical part of this project.

Hughes: What was that?

Roll: I'm trying to think what the hell he did. I don't remember if he ever did very much, except he used an awful lot of stamps. In my "ethical" way I said that if he wanted stamps he could buy them, because I was running the fiscal part of this project. And Sheldon was a nominal assistant professor or something and, as usual, got no salary. Howard Lewis said, "I like William very much, but I know he's controversial." So he pussy-footed around that.

I returned to Portland and set up the Rockefeller project.

Hughes: You were there 1951 to 1953?

Roll: Yes. I was there almost two years. Howard Lewis really was the big honcho, but he let me set it up pretty much as I wanted. We were given space in the old Doernbecher Hospital.

I talked them into letting me go down on the first floor of the Outpatient Department, to Admissions, where I interviewed and recruited every person that registered in the Outpatient Clinic.

Hughes: Every person?

Roll: Every person. There wasn't that big a caseload, though. There were perhaps twenty or thirty a day. I forgot to say, these were new patients. I wrote the questionnaire, of which I still have samples. In about five minutes, I learned more about people than you would believe.

I'd say, "How many brothers and sisters did you have?" "Well, I had four brothers and five sisters." "Well, isn't that marvelous!" [laughter] "Tell me about what happened to them all. And how old were your mother and father when they died? Did they still have all their teeth?" It was unbelievable. I even asked them about their schooling. It's hard to believe how much I managed to get into that questionnaire.

Meanwhile, I was making little scribbles about their somatotypes, dysplasias. I even gave them temperamental ratings.

Hughes: On the basis of their somatotypes?

Roll: On the basis of their behavior. And then I'd check the rating against a somatotype later.

Hughes: And how did they correlate?

Roll: Very well. One gets pretty good at these things eventually. The important thing is to refrain from publishing one's hunches. It was a beautiful, beautiful setup.

I don't think that the Portland community from which I had departed was enthralled to see me back, but I was having a good time leading an entirely different kind of life from my previous one.

Hughes: Did you get in touch with any of those old friends?

Roll: Oh, yes. Some of them I saw regularly. And Hal used to come and see me.

Hughes: Was that study published?

Roll: I don't think so. The study went on for four years. It was a four-year grant. I left in the middle of it.

But to go back to my recruitment of subjects: When I completed the interview, I gave them slips to come up to the Constitution Laboratory. We called them "medical photographs." I can't remember anyone refusing.

Meanwhile, Sheldon put on his white coat and went swishing around the medical school. He succeeded in infuriating almost everyone in the environment within a month.

Hughes: How did he do that?

Roll: He said outrageous things. He called everybody who was not a doctor, "Doctor," which enrages some people. He just had the place in an uproar. And here, I had created what was probably the most ideal climate for a research project that anyone could conceive of. And dear Willy behaved in his customary manner, which I hadn't foreseen.

I had a marvelous woman, Madge Deaver, as my assistant. She was the second most mesomorphic woman I have ever seen. Also, she was funny--really funny. She had been a patient of Hank Dixon's. That's how I found her. I've forgotten whether she was depressed or manic, but she could have been either.

And then there was a very nice doctor in the Department of Medicine--Dan Labby. I had known him well years before. He was also Dr. Selling's son-in-law. He had a younger brother, Arnie Labby, who wanted to go to medical school and was a natural-born comedian. His chief problem was that he couldn't resist making jokes when he went to interview. Consequently he was repeatedly turned down for medical school. A great pity, because he would have made a wonderful doctor.

Well, for those two years he worked with us on the somatotyping project. He and I with Madge Deaver really were a splendid team. We gathered a wonderful collection of somatotype photographs. In short it was a delightful setup in every respect.

The really big thing was that Scott Heath turned up at the medical school. He was in his last year and a half his residency in ophthalmology.

Hughes: At the University of Oregon Medical School?

Roll: Yes. He could have had his residency anywhere he wanted it. He had already gotten a DOMS [Doctor of Ophthalmic Medicine and Surgery] at Moorfield's Hospital in London, but he needed another year or two, or he thought he did. His father had had a serious coronary. There was no medical school in Seattle at that time, so he opted for Portland to be within calling distance of his father.

He showed up in the somatotype project. He was fascinated with the idea of somatotyping and used to come by often. We had a one-way mirror in front of the booth where we kept the camera. This made it possible to handle both sexes with a man/woman team, by alternating the photographer and the person who posed and instructed the subject. Scott used to come to see what was going on. As you can imagine.

Hughes: It was just you and Labby doing the actual somatotypes?

Roll: And Madge Deaver, who acted as secretary, undressed the people and helped to measure them, and helped keep the records. She had the most marvelous handwriting.

#### Roll's Modifications of Sheldon's Methods

Hughes: You stuck very exactly to Sheldon's methodology?

Roll: Oh, yes. But I had begun to ask questions about it. This was about the time I became acquainted with Carl Hopkins, who was the biostatistician at the medical school.

Carl was a graduate of Dartmouth who got a Ph.D. in sociology at Harvard. I remember he told me that when his advisor realized the viewpoint of his dissertation, he recommended that Harvard not publish it. He got his Ph.D., but Harvard impounded the dissertation--and when I last heard it was still impounded.

He had a real gift for statistics. Carl became a good friend, with whom I've kept in touch. I know him very well indeed. I have a stack of letters from him, filled with a wide variety of intellectual topics. He's a remarkable man, very gifted musically--plays the piano very well. I remember that he spent several years on a government project in China. He learned the Chinese language too.

The point I started to make is that I took my somatotype method questions to him. He became greatly interested in the underlying methodology and problems of statistical analysis. The net result was that under his tutelage I became increasingly convinced that serious modification of Sheldon's method was justified.

Hughes: You were discussing the fallacies, I take it.

Roll: Yes. I reviewed the whole business with him. I suggested opening the scale at both ends. I wanted to let it fall as low as it could and rise to the point that seemed reasonable. I knew from empirical experience that the scale couldn't fall below zero, and I also knew there was a limit to how high it would go.

Likewise, I knew that Sheldon's constricted rating scales and extrapolations did not allow for rational description of obvious changes in somatotype over time. I believed that we needed a scale and criteria that would allow for the present somatotype, the physiques of subjects as they are, and would describe them as their somatotypes changed. I rejected the idea of second guessing what their weights might be at some future time.

Hughes: Now, did Hopkins suggest opening up the scale?

Roll: I suggested it, but he went along with it. He didn't really know much about somatotype before I took the problems to him. I had already worked out the modifications I wanted to make.

Hughes: Did he have anything to say about extrapolating for changes in weight?

Roll: Oh, yes. He disapproved of it.

Which reminds me, I haven't talked about one of my earliest problems with Sheldon's criteria: I found that in a series of somatotype photographs, particularly of college-age subjects, the height/weight ratios Sheldon had assigned fitted well with my visual impressions. In other words, when I picked up a photograph of a subject with a height/weight ratio of 13.80 my eye might tell me that he was in fact a 3-4-5. That is, his data and my anthroposcopic impression matched. Then there were cases where my eye told me the somatotype and the height/weight ratio Sheldon had assigned to it did not match at all.

Finally, I recorded all the somatotypes that seemed to fit Sheldon's height/weight criteria. I found there were twelve of them. My next discovery really intrigued me: The somatotypes 4-4-3, 4-4-4 and 3-4-4 had, respectively, height/weight ratios of 13.00, 13.20 and 13.40. This meant that there were differences of 0.20 in height/weight ratios. The most intriguing part was that there were also differences of one rating point in one component between any two adjacent somatotype ratings. The same relationship among neighboring somatotypes turned out to be true for all twelve of the somatotypes I found to be compatible with their assigned height/weight ratios.

I won't bore you with the whole series. The point of this exercise, which came about more or less by chance, was that I suddenly realized that there should be a linear relationship between somatotype ratings and their appropriate height/weight ratios. My next step was to build a table in which I first placed the twelve compatible somatotypes with their Sheldon-assigned height/weight ratios. Next I filled in the remaining somatotypes (at that time I think Sheldon had identified about sixty) so that for each change of one rating unit in one component in a pair of neighboring somatotypes there was a difference of 0.20 in height/weight ratio.

Voila! I had a distribution table that established neat linear relationships between height/weight ratios and somatotype ratings. Next I eliminated extrapolations for age. I rated every subject according to his current data, and refrained from guessing what an earlier or future somatotype might be.

Incidentally, I've been referring to whole-number somatotypes, while actually I made ratings using half-units. In fact, Sheldon also used half-units. The height/weight ratios are determined by interpolation. In other words, if the height/weight ratio is 13.30, you begin to think of a somatotype half-way between 4-4-4 and 3-4-4. That could be 3.0-4.0-3.5, or 3.5-4.0-

4.0 or 4.0-3.5-4.0, among others. In the end the eye is critical in deciding the final rating.

Hughes: What did Sheldon think of your modifications?

Roll: I never found out.

Hughes: This was still Oregon, and you were still associated with him.

Roll: This was still Oregon and I was just doing this on my own. I wasn't publishing it, and I wasn't putting my corrected ratings on the records. I just was doing it. Carl thought that was legitimate. Carl was an academic type who introduced a few academic points of discussion. What I found important was that he thought what I was doing was logical. I ran my ideas past him, but none of them were his suggestions. He didn't make any contributions; he just listened to me and encouraged me. Of course, he didn't like Sheldon. By the time I could see what the essential things were that needed changing, I was all but ready to leave the project in Portland.

Scott and I were committed to a permanent relationship. He was at the end of his residency, and had agreed to work with an ophthalmologist in Hartford, Connecticut. I had decided to go back to school again--this time to go for a Ph.D. A research professor [Leonard Larson] in the Physical Education Department at NYU [New York University] invited me to do my graduate work under his sponsorship. He was interested in somatotype research, and liked the modifications I suggested.

Hughes: But this was sometime after that photograph-cutting episode.

Roll: Oh, yes, that was all behind me. In fact, by that time The Atlas of Men had gone to press. It was released in 1954. That was after Scott and I were married--after I was here in Carmel.

Hughes: Why was there such a delay?

Roll: I don't know.

Hughes: I read that Sheldon claimed The Atlas was based on 45,000 photographs.

Roll: Lindsay [Carter] and I dealt with that, too.

Hughes: And what did you find?

Roll: We found that there was a substantially lower number. I counted them all up. I don't know how Sheldon calculated numbers like that. There were more than that number of somatotype photographs in existence, but the huge collection was at Harvard that Hooton had supervised, that were taken when the army was demobilized. However, Hooton never let Sheldon look at them.

Hughes: And Hooton had his own method.

Roll: Hooton had his own method. It wasn't that different, but it was a little nutty.

Peer Dissension Regarding Sheldon##

Roll: Sheldon thought that Hooton was getting old and a little silly. It seems more likely to me that Hooton decided after hearing Sheldon's equivocating remarks at Cold Spring Harbor--probably the summer of 1949--that some distance between them would be advisable.

That was the Cold Spring Harbor Symposium at which Sheldon gave a paper, after which the argument about the permanency of the somatotype and the genetic basis of it came up. I was at the symposium and I remember the shock of hearing people raising obviously serious questions.

Hughes: What did Hooton have to say?

Roll: Hooton objected to Sheldon's idea of [somatotype] permanency. He also objected to the idea of the genetic embryonic layer origin of somatotype. I think he decided Sheldon's ideas were not quite scientifically respectable. When I talked to Hooton, three or four years earlier, he was giving Sheldon more elbow room than he gave him by 1949. As a matter of fact, I don't think Sheldon ever saw him after that. Incidentally, Hooton died before I left the Constitution Lab setup.

Hughes: Now, Hooton himself had made some correlations between physique and behavior, had he not?

Roll: Yes, I think so.

Hughes: There were two books that he wrote--

Roll: He wrote Young Man, You are Normal and Up From the Ape.<sup>11</sup>

Hughes: I gather that both were controversial.

Roll: Oh, yes. Hooton loved controversy, but Sheldon was just one too many for him. Hooton was a very funny man. Also, he loved to ruffle people's feathers.

Hughes: Well, he was also in a position where he could, wasn't he? Quite a power in the academic world.

Roll: Oh, well, yes, with all Harvard behind him, he had nothing to fear. Actually, Sheldon really didn't see any of his old academic buddies after the 1940s.

Hughes: How did Sheldon handle himself at that Cold Spring Harbor symposium?

Roll: Oh, he always handled himself with considerable aplomb and poise. He always tried to turn aside detailed questions about his work with his special brand of circumlocution: "Well, that's something that has to be looked into."

Hughes: He didn't come up with any hard facts?

Roll: No. He had a very woolly way of dealing with the phenotypic somatotype versus the genotypic somatotype, and he loved to talk about the morphophenotype and the morphogenotype. That's all very well, but it doesn't get you anywhere.

Hughes: Wasn't his argument that the phenotype was simply a mask over the basic genotype, and if you looked hard enough--

Roll: If you looked hard enough, you could see it.

Hughes: That must have taken some doing.

Roll: It did. [laughter] And I tried it.

Hughes: It seems to me that you can explain anything that way, Barb.

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<sup>11</sup>Earnest A. Hooton. Crime and the Man. Cambridge: Harvard University Press, 1939.

Earnest A. Hooton. Up from the Ape. New York: Macmillan, 1931.

Earnest A. Hooton. Apes, Men, and Morons. New York: Putnam, 1937.



Roll: Yes, in a sense you can.

Hughes: Who's to say that there's not a mesomorph under all that endomorphy?

Roll: Oh, you can--and I can tell you just how much mesomorphy is under it. But I think you'd better include the endomorphy while you're describing it.

Hughes: Which he wouldn't.

Roll: Which he wouldn't.

Hughes: Because he'd think that was irrelevant.

Roll: Yes. His approach was: I'm rating the morphogenotype, irrespective of age. I say, "That is a fat 4-4-4 at age fifty." And I say that is not a 4-4-4, whatever his age, and whatever he tells you about his weight at age eighteen. He is now a 6-4-2, or whatever his height, weight and skinfolds, his somatotype photograph, and my eye, say he is.

Hughes: Do you think Sheldon was disturbed by the fact that he could go back and look at somebody a few years later, and find that their phenotype was so very different from the phenotype he had seen earlier?

Roll: No. He said all you have to do is find out what they weighed when they were young adults, and put it back together again.

Hughes: What was so sacrosanct about your weight at age eighteen?

Roll: He thought of age eighteen to twenty as college age, young adult maturity.

Hughes: Would you think of the Cold Spring Harbor symposium as the beginning of the end of Sheldon in scientific circles?

Roll: I think a lot of people would say that. I never thought much about it, but yes, I think a lot of people regard that as the beginning of the end.

Hughes: That's such a prestigious setting for scientific discussion.

Roll: Well, the two episodes that set the tone for discrediting much of what Sheldon had to say, that I know about, were Cold Spring Harbor and, a year or two later, when he was asked to give the big address for the national convention of the physical educators in Los Angeles, I think it was. I was at that one, too. And he got

himself into some kind of a predicament in that one. I no longer remember what it was. It involved the same business about permanence of somatotype. With great poise and apparent good nature, he would say, "Oh, well," and then go into his routine. He'd make a gracious bow to the chairman and say, "Of course, you know that we'll do that. It just takes a few more so-and-so and so-and-so. I can't mimic what he did. I'm sorry I don't remember it all verbatim, and sorry I couldn't tape it, because it was a wonderful performance.

Hughes: How was he in synch, or not in synch, with what was going on in anthropological thought in general? Genetic determinism in the postwar years, largely because of the horror of what the Nazis had been doing, was not a popular ideology--the idea that whatever you are, you're stuck with, which is really what Sheldon was saying. You're born with a given somatotype and that's what you die with. The next step is linking that inviolate situation with personality and behavior. You end up with a pretty rigid system in which it doesn't matter how much you're educated or how much environment changes.

Roll: I have talked about that a good deal. However, it didn't seem to come up in talks with him. Well, for one thing, he was mostly talking about the atlases--The Atlas of Men, the proposed Atlas of Women, and so on. He wasn't talking about behavior. You're talking about the shaky basis of his documentation. Actually everybody was still haggling about methods.

Hughes: Well, that's logical. There's no point in carrying it a step further if you don't even credit the first step.

Roll: No. So people stopped him right there, at method, and never got any farther. I think if they'd gotten any farther other arguments would have been raised. People did detect in his writing, his racial biases. And they may even show up in the atlas. In the margins of the pages there are little drawings of animals with inappropriate comments about them. He used animals to be representative of such-and-such a somatotype, and so on. He wanted the drawings to be large. I hadn't thought about this part of the preparations for the atlas. I do remember the young man who made the drawings. But that is another story.

Anyhow, I never argued with Sheldon. So far as I can remember I never had any discussions that even mentioned the Nazis. Now that you mention it, I wonder why the subject never came up.

When I was on my own I talked a lot about how important it is for people to realize that their somatotypes do change. I pointed

out that there is a cluster of somatotypes which are possible for each person.

It is interesting how different somatotype changes are for people who vary greatly in weight during a lifetime. For example the big, heavy mesomorph without very much ectomorphy has a rather small cluster of possible somatotypes. His somatotypes don't change all that much; but his waistline changes.

Hughes: If you're born a 7-1-1, you're never going to be a 1-1-7. Is that the idea?

Roll: Never. Well, let's say a 1-2-7, because I'm not even sure a 1-1-7 exists. A 1-2-7 might become a 4-2.5-4.5. The change won't be that spectacular, and the mesomorphy is not going to change greatly.

Hughes: Endomorphy and ectomorphy are more labile than mesomorphy?

Roll: They are labile and they're inversely related.

Hughes: I remember reading also that Sheldon was really only dealing with two components, when he tied the components to embryonic layers-- and that was a flaw in his genetic argument.

Roll: A lot of people love to argue about that. They like to say that there is no such thing as ectomorphy. Well, that's all right. Of course the somatotype components are not entities anyway. They're just descriptive concepts.

Hughes: That's fine when you have a system like yours, where you're not making statements about genetic origin. But if you're talking about the derivation of ectomorphy from the ectoderm, the ground becomes pretty shaky.

Roll: Then you have to postulate all kinds of things.

Hughes: Did he ever answer that criticism?

Roll: No, of course not. He produced a lot of words that didn't answer anything. He replied without answering.

#### Studies at the Gesell Institute

Hughes: Barb, we skipped over the studies that you did at the Gesell Institute. Would you say something about them?

Roll: It must have been the spring of 1949 that I first met Frances Ilg. She was a pediatrician by training and was a collaborator of Dr. Arnold Gesell at Yale Medical School, where Gesell was given most of the credit for studies of child behavior. He and Frances together wrote many books: Infant and Child, The Child From Two to Three, and so on. This was pre-Benjamin Spock.

When Arnold Gesell retired, Yale Medical School, for some perverse reason, did not give him emeritus status and a place to work, which was customary. They suddenly went Freudian and set up a child study program with a Freudian psychoanalyst in charge, kicked Gesell out, and got rid of all of his associates. It was pretty brutal.

Frances Ilg was a remarkable woman. She owned her house in New Haven. She had inherited it from a nice old lady whom she had looked after at the end of her life. I don't remember what their original connection was. She also inherited a pleasant sum of money from the same woman. She was of course at loose ends when her appointment at Yale disintegrated.

She took her inheritance and bought two old houses just off the Yale campus, refurbished them, and called them the Gesell Institute. She gave Arnold Gesell a study there, and brought with her a psychologist named Louise Ames. Louise Ames and Frances had written a number of things together after Arnold Gesell was out of it. There were two or three other people. She set up a nursery school in her new complex. I don't know the details of the original Yale project. There may have been a nursery school setup over at Yale; I'm not sure.

In any case, Frances included a nursery school in the Gesell Institute. She used one of the houses for the nursery school. She brought some very well-trained people, who had academic training as well as training in child care, to run the nursery school.

Hughes: Which was for faculty children?

Roll: No, for anyone. It was a private nursery school with a fee. However, she also expected to be able to use these children in studies of child behavior and child development.

Hughes: That was an understanding at the nursery school?

Roll: Yes, everybody knew that; there was no question about that. There was also a clinic for children, which I never paid much attention to. I suppose a parent might come in with a complaint like:

"Johnny is not growing fast enough." Frequently, the problem was behavioral.

Frances had very shrewd insights into children. She was wonderful with children. She developed the theory that little boys in general are apt to be slower growers than girls, and they should be held back from regular school for at least a year and catch up.

Hughes: At what age?

Roll: She was talking about preschool ages--four, five and six. She thought many little boys ought not to start standard first grade until about age eight. She described the different behaviors of children at various ages. She was very good at it.

Well, somewhere along the line, and I don't know how or when, she got interested in Sheldon. She decided that she wanted to have a somatotype setup in connection with the Gesell Institute. Sheldon thought that was a pretty good task for me.

So I trundled all the equipment down to New Haven. Frances and I worked together on setting up all the necessary photographic and related equipment. We developed a marvelous relationship.

In afterthought I realized that Frances and I developed a first-name friendship almost immediately, whereas Louise Ames, who had known and worked with Frances for twenty years, called her Dr. Ilg. For some inexplicable reason, we just got along. And yet she had a number of notions that didn't fit my more practical temperament. She was a whimsical person. She believed in water-witching, and she consulted some kind of a thing that waned one way one day and the other on a subsequent day. She'd say, "This is not a good day to do so-and-so." [laughs]

Hughes: And what was Louise Ames's background?

Roll: Louise Ames was a psychologist. She also could type faster than anyone in creation. She was about this tall, and a bundle of energy. Louise and I didn't care much for each other. Frances found that very amusing. She loved to deliberately set us up.

Hughes: It was a longitudinal study you were setting up?

Roll: Yes, we set up a longitudinal study, more or less longitudinal, again without any anthropometry, for heaven's sake. Of course, I didn't know about anthropometry at that point. You see, this is what comes of untrained people getting into things like what I got into. I should have been pulled out and given good physical

anthropology training. I wasn't. I caught on, but it took a long time.

So we took photographs of the children in the nursery school and children Frances saw in consultation. I think we photographed them twice a year. The photographs were very good, but the data are of no use to me now because I don't have the anthropometry. Of course, the same is true of all of the photographs I did with Sheldon.

When I went to New Haven to take somatotype photographs, I stayed with Frances at her house. When I went back to New York in 1953 Scott and I spent several weekends with her. In 1964 she and I went together to my first International Congress of Anthropology, in Moscow. We had a wonderful week of theater-going in London on the way. She visited us here in Carmel a good many times. Eventually Fred got to know Frances. In fact, he took beautiful photographs of her. She was a wonderful friend.

Hughes: The studies she did are famous, aren't they?

Roll: These somatotype studies are not famous. Nothing much came of those. After I no longer had anything much to do with the somatotype aspect of it, she added a young psychologist to the staff, Dick Walker. He fiddled around with the somatotypes but I don't think anything significant came of it.

Hughes: His work was never published?

Roll: Yes, Dick Walker's stuff is published. Of course I'm very prejudiced and really shouldn't make judgments on his work.

The important point is that the Gesell Institute gave me an opportunity to see children and learn to photograph them. I don't think Sheldon ever even tried to somatotype the pictures of the children. I suppose we had the photographs in the laboratory in New York. However, after I came west Frances used to send me the photographs, and I rated them all for her.

Hughes: Did you have any dealings with Gesell himself?

Roll: I only met him. He was quite old, and I think he died within two or three years of the founding of the institute. He was a wonderful-looking old man, a big aristocratic German. His son is Judge Gerhard Gesell [died 1992], who became well-known during the Watergate affair. Frances used to tell stories about him as a boy.

The Gesell Institute was an important experience in my somatotype training. It gave me invaluable insights into the way somatotypes develop in childhood. I learned that it is pretty difficult to predict a child's somatotypic course at an early age.

Hughes: Isn't there some significance to the fact that Sheldon never did studies of children, and he never did longitudinal studies?

Roll: I suppose the significance is that he wouldn't have had the money to do studies of children if he'd wanted to. I am by no means certain that he wanted to do studies of growth.

Hughes: I was also thinking how predominant change is in childhood.

Roll: Of course, it's terribly important, and I have thought about this a good deal. I suppose a case can be made for excusing him because he was not exposed much to studies of children. He never had a look at the samples of people from other ethnic groups and cultures. He had a few ideas about the differences between the physiques of blacks and other people, and they were perfectly legitimate. As long as he stuck to somatotype and didn't get involved in their ethnic differences, he was fine. He knew a little bit--a very little bit-- about Japanese physiques. I think he saw Bert Kraus's photographs. But he knew very little about somatotypes outside of samples of Americans. The only somatotypes that he was really familiar with were of the U.S. Air Corps, the population of veterans' hospitals, three mental hospitals, college men (mostly East Coast), college women, and clinic patients--male and female.

All of these samples added up to a large number--certainly enough to be fairly representative of the distribution of both male and female somatotypes in the United States. However, because there were no samples of populations in countries in other parts of the world, he had no way of establishing the boundaries and restrictions within the human species as a whole. I don't think he ever thought about human beings as a species in the way you and I might have--a concept of a world that's full of a single species and the kinds of variations it does have and does not have.

Hughes: Did he think of his method as being universal?

Roll: He gave lip service to that, but when I think about it, I can't imagine that he really knew what he was saying. He didn't have much empathy for the world. He just didn't have much empathy. Period. [laughter] He had brilliant insights. That's what I always said about him: he had insights without empathy.

Roll Leaves Sheldon

Hughes: What actually led to the parting of the ways?

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Roll: Well, by the time I had been at the University of Oregon Medical School for a year or so, I had reached the point of thinking about doing something about my own convictions on the subject. I never deviated--and this is really a terribly important point--I never deviated in my interest in somatotype as a concept. In the course of time, I got enough training in all kinds somatotype-related procedures that I felt that perhaps there was something important I could do with it, particularly in straightening out the methodology.

I faced up to the fact that Sheldon had built a closed system, that a closed system is unthinkable, and that unless the methodology was clean, there isn't any use in worrying about the significance of what you're doing. Never mind the significance; it will come in due time. Also, for some reason which I can't explain, I was in no hurry. I think I just enjoyed what I was doing. Of course I never was under pressure to publish or perish. Someone always came to my rescue in one way or another.

On the other hand, the pressures were beginning to build up on Sheldon. He was becoming less and less of a "persona grata" at Columbia. So I had no reason for ever wanting to go back there.

Hughes: That was happening because people recognized the flaws in his methodology?

Roll: Somatotyping was becoming pretty unpopular. Why I thought that I could do something with it, I can't imagine. Or why I even thought it was important. But it interested me. I think that was probably it. I never had any particular feelings of having to persuade others that somatotyping was important. I just liked what I was doing.

[Interview 4: March 18, 1990]##

Hughes: The final break with Sheldon came in 1953?

Roll: It was about April of 1953 when I decided that I was going to go back to school.



The most dramatic aspect of the breakup came when Sheldon said, "Please hand over the keys to the car." I declined to do so. He said, "You are defying me." I said, "Yes, I am. I will ask McDermott what he wants done with the car, and I will offer to buy it." He said, "Oh, you're going over my head!" "Yes, I am." At which point he announced he didn't ever want to see me again, which turned out to be quite untrue. That I didn't want to see him again was true.

In May I drove my mother across the United States in the disputed station wagon. I remember our listening to the coronation of Queen Elizabeth on the radio in the car. I took my mother to her fiftieth reunion at Smith College, which was a remarkable experience. I remember delivering her to the dormitory where the fiftieth was "reunioning"--probably the same one where I had my fiftieth reunion in 1982.

It was fascinating watching those women, many of whom had not seen each other for fifty years. They came up to Mother, who then had snow-white hair and certainly was very handsome. They said, "Oh, Carlotta, what wonderful white hair you have! How marvelous you look!" and so on. Later in the evening Mother confided to me, a propos of one of her friends: "Well, I must say she improved in looks; she was a very homely girl." [laughter] Whereas my mother had been considered a beauty and took a lackluster view of her own looks at that point. It was a wonderful experience for me, and I hope it was for her.

It just occurred to me that I looked upon my mother and her classmates as really old women. Mother was seventy-two. Thirty years later, when I was 73, I certainly did not look upon myself as really old. Something has happened to our concepts of age--or something has happened to the aging process itself.

After I left my mother at her Smith College reunion, I went to New York and moved back into the apartment I had in New York.

This is where Fejos and the Wenner-Gren Foundation came back into the story. Lita Binns (I called her Minx, and still do) told me that Fejos had had a letter from Sheldon saying that I should never be given any privileges of any kind again; that I had stolen a car from the Constitution Laboratory, which I found incredible. I realized that he had probably circulated this letter widely. I soon learned that he had sent one of them to Leonard Larson at NYU where I was going to do graduate work. I've forgotten where else he sent his evil missive.

I promptly had copies made of McDermott's letter in which he gave me the car and mentioned that he enclosed the certificate of

title signed over to me--this was before the days of xeroxing. Not very long after that, I discovered that Sheldon had also circulated a canard to Dean [Willard C.] Rappleye of the Medical School at Columbia. The immediate after-effect of that ploy was that Rappleye informed Sheldon that he could move his goods and chattels out of the Constitution Laboratory.

And that was the end. The Constitution Laboratory died in the summer of 1953. So there was Sheldon with files of thousands and thousands of somatotype photographs.

I just realized that I forgot to mention Dorothy Paschal when you asked me who else was in the Constitution Laboratory. Actually, she appeared during my second year in New York. Sheldon gave a lecture course (I don't remember what he called it) at the New School for Social Research. One of the persons who showed up was a woman whose name was Dorothy Iselin Paschal. She was the divorced wife of the man who invented Airwick. She was also a lineal descendant of John Jay, one of our Founding Fathers, and the first Chief Justice of the Supreme Court. A very aristocratic family and she was clearly a faded aristocrat. She had deep lines in her face, an unhealthily pale skin, and a beautiful aquiline nose. She always moved and talked slowly, as if she couldn't think what she wanted to say. She became Sheldon's devoted slave.

Hughes: Did she have a background in anthropology?

Roll: None. Not even a college education. She was not really helpful. But she was a born sycophant with a slavish desire to be useful. She tried to learn to somatotype. I have no idea what her batting average was. I do know she could no more have set up and run a project which involved photographing and measuring and processing of photographs and so on than she could fly.

Hughes: Was her attraction to Sheldon or to somatotyping?

Roll: I think she was attracted to the whole thing. If she was attracted to Sheldon, it certainly was without any idea of it being reciprocated. I suppose she wished that she was forty years younger and irresistible. Actually, she wasn't all that old. I suppose she was roughly my age. I always thought of her as being a generation older.

Anyway, in her divorce settlement, she had done very well financially, so she had quite a lot of money. So she moved into an apartment in the same building where I was. When Sheldon lost his space in Presbyterian Hospital, she moved the contents of the Constitution Laboratory into that apartment.

I should add that the apartments in this building were extraordinarily large. It was a formerly elegant apartment house on Riverside Drive at 157th Street. They were high-ceilinged, large-roomed apartments near the Hudson River. I remember I had a view of the George Washington Bridge and the New Jersey shore of the Hudson River.

Of course, I know very little about what Dorothy Paschal did after I left the organization, and very little about Sheldon's arrangements. He was in Portland when I left. He had made a habit of spending two or three months in Portland and then returning to New York. I gathered that Dorothy Paschal had theoretically taken my place in the New York Constitution Laboratory. I inferred that she received no pay.

Hughes: Sheldon also wasn't getting paid for whatever he was doing?

Roll: No, he wasn't getting paid. At this time, McDermott was still around, and he may have given him some money. Sheldon wasn't getting any money from the grant. He did have other resources.

I think I mentioned that Sheldon had become an expert in numismatics, because of his large collection of great American pennies. As a matter of fact, he was a numismatist of some note, and still kept in touch with all the great collectors in the country. He had known George Clapp, who was the founder of ALCOA, the Aluminum Company of America in Pittsburgh. Clapp had given his collection of pennies to the American Numismatic Society, which was in effect a museum near Columbia Medical Center. Sheldon told me that his own collection was probably worth as much as Clapp's was. It was the largest privately owned collection of early American cents in the country. And there were several other pretty fair-sized ones around. I met some of his coin-collecting cronies. Sheldon gave me quite a collection of not terribly good pennies, which I found interesting. I sold them rather advantageously about ten years ago.

I have no idea what became of Sheldon's collection. I had the impression that it was worth upward of a million dollars by 1950. If it is still intact, it would be worth many millions by now. In short, it was a very valuable collection. In addition to the pennies, he had some very rare old Greek gold coins. So he always had collateral for anything he could conceivably want to do, and he didn't have any expenses to speak of.

Oh, I almost forgot. He had his pension as a disabled U.S. Army major. So you can see he had no financial worries.

Sheldon's Biological Humanics Foundation

Roll: Although I was in touch with no one in Sheldon's inner circle, I have a vague idea of how his last chapter played out. First of all, the Rockefeller grant was for four years, which I think ended in 1955, so Sheldon no longer had a reason for spending time in Portland.

I have the impression that it was in the mid-fifties that Dorothy Paschal bought a house in Cambridge [Massachusetts]. Presumably she did this with Sheldon's enthusiastic approval. In any case she set up a fair-sized household that included Sheldon and a son of hers who (so I have heard) was borderline retarded. I heard this much later, and do not know the details. I gather that all of Sheldon's papers, photographs, and books were moved to the Cambridge establishment.

Sheldon reconnected with Elderkin, the eccentric social worker who had done all of the legwork for the delinquency study. He also kept up his connection with Hartl at the Goodwill Inn. I never learned the connection, but a young psychiatrist named [Edward P.] Monelly, became interested in Sheldon. I have the impression that they met through Hartl.

I can just see this consortium--Hartl, Elderkin, Sheldon and Paschal. I am told the house in Cambridge was referred to as the Biological Humanics Foundation. I suspect there was a little collaboration from McDermott, who apparently kept in touch with Sheldon.

Sheldon's Trunk Index Method

Roll: Where Sheldon got the idea for the trunk index concept, I don't know. I remember Albert Behnke talked about using planimetry to measure the surface area of the human body. I recall discussions to the effect that it would improve somatotyping if you had some way to judge the area of the body, that it might help in this business of trying to visualize the body in three dimensions, and so on. Whether the trunk index could be traceable to Behnke, I don't know. I do know Sheldon came forth with the notion that he could answer all of the objections to his original somatotype method by using what he called the trunk index method.

Lindsay [Carter] is better at explaining the trunk index than I am. It has to do with going back in the subject's history and asking the subject to recall his or her maximum weight. I thought that was an enchanting notion. Sheldon used to ask what they weighed at eighteen or twenty. For the trunk index he changed that to the maximum weight. The maximum weight determines endomorphy. So the subject is stuck with whatever his maximum weight signifies.

Apparently Sheldon began to realize there was something awry in the business of how to deal with people's changes in weight through time. As a result he developed a very elaborate procedure of measuring some critical areas on the somatotype photograph, from which it was possible to derive a ratio. For example, this procedure meant one must locate accurately, the pubic crests--a nice trick on a well-padded 7-3-1. I find it difficult enough with a pair of calipers on a living subject. Sheldon's alleged theory was that these procedures opened up the scale, so that no one could argue with him about the scale anymore. He really had it all figured out!

The most interesting thing about the trunk index is that there's almost nothing published on the subject. Some obscure publisher with an East Indian name published something at the end of an obscure compendium<sup>12</sup>--the most academically unpromising presentation I've ever seen. All the tables he used were in this publication.

Sheldon was invited to give what is called the Maudsley Lecture in London.<sup>13</sup> I don't know what the Maudsley Lecture is. Whatever it is, he did not give it himself. Instead he gave the manuscript to Emil Hartl and sent him to London. All of these things just sound like a bad play.

I got the impression--albeit indirectly, to say the least--that a few anthropologists became interested in the notion of the trunk index. Perhaps they thought: "Well, now, if the master has mended his ways, this is worth looking into." There were a couple of anthropologists [Hanna Faulhaber and Alfonso de Caray] in Mexico City whom I knew and had worked with at the Olympic Games in 1968, who applied the trunk index method to the somatotype photographs that were taken at the Olympic Games. I found it amusing--and a little boggling. I couldn't understand why people got involved in what seemed to me a futile exercise. Even a few of the University of Oregon people in physical education tried applying the trunk index method. Nothing came of it.

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<sup>12</sup>PJD Publications, Ltd., 10 Oakdale Dr., Westbury, NY 11590.

<sup>13</sup>Maudsley Bequest Lecture, Royal Society of Medicine, London, England.

All of this is in Lindsay's and my somatotype book, documented with the differences among the Sheldon original method, the trunk index method, and the Heath-Carter method.<sup>14</sup>

Hughes: There was no relationship between the trunk index method and Sheldon's original method?

Roll: Oh, yes, of course there are relationships. The point is that Sheldon appears to have abandoned the most defensible aspects of the original. Lindsay and I are nonplussed. Sheldon never said that he had abandoned the other; it just disappeared.

A good many years ago Sheldon wrote me a most peculiar letter. He pasted on a sheet of stationery the letterhead from Columbia Medical Center stationery from some distant past date. The body of the letter (which was brief) suggested that I come to see him; that we could write books together. I had an equally obscure letter from Dorothy Paschal, which he obviously had dictated. I've forgotten what the subtle suggestion of that letter was. I do remember the style was stupefyingly formal.

Hughes: Did he make the offer because he realized you were making progress?

Roll: Oh, yes, I think so. He always suspected that I was going to do something interesting.

Hughes: He wanted to cash in on it.

Roll: Yes. And he certainly would have cashed in on it. I would have ended up in a footnote. I didn't even acknowledge his letter. I did acknowledge Dorothy's letter.

Hughes: I read that to answer his critics he reintroduced size. It must have been in the trunk index method.

Roll: Yes, he did. He totally contradicted himself. As I mentioned, there is a fairly complete analysis of all this in Lindsay's and my book, showing what he did and what he did not do, and why it wouldn't work. The trunk index notion is incomprehensible from my point of view.

Hughes: Were he and his people at the Biological Humanics Foundation available to teach people?

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<sup>14</sup>See Somatotyping: Development and Applications, pp. 46-56.

Roll: They were available, but so far as I know no one paid much attention to them. While he was still going to Portland, he continued to circulate the idea that there would be an Atlas of Women.

Roll's Last Contact with Sheldon<sup>15</sup>

Roll: After Scott died I thought that I would like to go up and resomatotype the collection at the University of Oregon Medical School. So I called Howard Lewis, and he said, "Oh, I think that would be a fine idea. I'm sure that William would be perfectly glad to have you do it. Why don't you call him?"

Well, I thought, what the hell, I'll call him and see what foolishness comes out of this. So I called him, and he was clearly senile. This was 1974, and Sheldon was then seventy-five. He was born in 1899. He was getting very fuzzy, and he kept asking me how my health was. I don't know why. "Oh, Dr. Barbara, we can do fine work together." "Oh, God, here we go. I really don't want to do those photographs anyway. The hell with it." But Lindsay and I were still interested in gathering any data to add to our already rather voluminous collection.

So as far as I can make out, Sheldon's notion of an Atlas of Women fell flat on its face. Harper's said no, they weren't interested, and nobody else seemed to be. The trunk index ploy didn't seem to go anywhere.. There were some rumblings about a followup of the delinquency study, with Monelly and Hartl and so on, and Sheldon had something or other to do with it. Well, after Sheldon died, Monelly and Hartl did do a followup, which is also very interesting--a minor disaster.

Hughes: Were they trying to make correlations between physique and behavior?

Roll: Oh, yes. They were following up the subjects in the original study, with the idea of finding out what had happened to them since the 1940s. I think they made trunk index ratings on them, and that Dorothy Paschal made the ratings. I also discovered that the ratings were made on the original photographs. In other

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<sup>15</sup>For better topicality, the next three sections were moved from their original position later in the transcripts.

words, they did not rephotograph the subjects to show how they had changed in the course of almost four decades. Even Sheldon trained me to be a better scientist than that. I don't understand these things. I have the book--and it bewilders me. There were inconsistencies that blow my mind.

Hughes: Who was funding it? Was McDermott still in the picture?

Roll: He may have been; I'm not sure. That is, money from his foundation in Dallas may have supplied some funds. I do know it was a respectable press that published the book (Academic Press Inc., New York, 1982).

Three years after I talked to Sheldon, he died. I think he died in 1977. He clearly either had had Alzheimer's or strokes or both. He just had cut himself off from anything.

Hughes: Do you know what happened to his data and his correspondence?

Roll: No, and I am mystified about what happened to all the photographs. Dorothy Paschal died two or three years later. A rather interesting man in New Mexico, Ellery Lanier, has the notion that the material is in Dallas. I think McDermott left some kind of a biological humanics something or other, and there was a woman whom I never knew. All of these things I'm vague about. There was some effort to continue with the somatotype projects. I also think some of the trunk index material was done in Dallas, as a matter of fact. I think that with his background as a physicist, the planimetry idea appealed to McDermott. McDermott certainly had no training in anthropology or any of the related fields that would give him a clear notion of what was going on. And he never quite got over the idea that Sheldon knew what he was doing. Frances Ilg at the Gesell Institute clung to Sheldon, too, which baffled me.

Hughes: What did Sheldon mean by a "biological humanics"?

Roll: Combining the humanities with biology, I suppose. He had a lot of circular talk that you couldn't have a sound ethical and moral and humanics orientation without biology, which is perfectly true, but I don't think he really knew what it meant; it just sounded like a good idea. We'd have to read his Promethean Will<sup>16</sup> to see what he was getting at. It's lovely sounding stuff. Well, I'm sure you've had the experience of reading something or listening to somebody and being absolutely enthralled, and then a half-hour

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<sup>16</sup>William Sheldon. Psychology and the Promethean Will. New York: Harper and Brothers, 1936.



later, you try to play it back to yourself and you haven't any idea what was said. And you realize that nothing that you can get your teeth into has been said.

Sheldon called the project at Columbia a biological humanics foundation, too, and used the fund that McDermott set up. Monelly and Hartl are still talking about it.

### Somatotype Photography

Roll: After the grant was given to underwrite the publication of the Atlas of Men, Fejos continued to believe that I was going to learn something useful about somatotyping, and he gave me permission to use the very well-equipped photographic laboratory in the foundation. So I learned how to develop and print photographs early on in my adventures with the somatotyping. Then Sheldon raised the question, or we both did, about the feasibility of doing color photographs, color slides, in lieu of somatotype photographs. In fact, I took several series where I did both black-and-white and the color slides.

Hughes: What would be the use of the color?

Roll: To have a more realistic look at the texture and color variation and the whole finish of a body. In the black and white you lose a great deal of detail. Color is much better at it.

Hughes: But color wouldn't affect the measurements, would it?

Roll: No, it didn't add anything to the measurements, but it added a great deal to your feel for what you were looking at.

This is probably a good place to say something about how somatotyping as Sheldon developed it made minimal use of measurement. I mean, it was age, height, and weight. The ratio of height to weight is an important measurement, there's no doubt about it; or rather, an important interpretation of measurement. But Sheldon knew, and I know, that the human eye is a mighty good judge of what it's looking at. Anyone who was not willing to trust his eye and learn how to use vision in dealing with somatotype photographs might just as well stay home. There are many somatotype photographs that I could somatotype very accurately without knowing anything at all about height and weight. But there are also many where you think, "Oh, I don't know; is mesomorphy greater than endomorphy, or does endomorphy have a little edge on it?" And sometimes the height and weight

will help you. You zero in on the neighborhood where that somatotype is situated.

So color photography was of great interest, particularly if we were trying to get a handle on texture. One saw all kinds of things one didn't see in black and white.

Hughes: When did you introduce color?

Roll: Oh, 1950.

Hughes: So color photography was well established by then.

Roll: Oh, yes, there was no question about that. One of Sheldon's colleagues took color photographs of the West Point series.

Fejos sent me up to talk to people in the color department at Eastman's [Eastman Kodak], and it didn't really clear much of anything up except the use of strobe light with Kodachrome slides. I met a man whose hobby was taking eight-by-ten color photographs of moths. It was fascinating. He collected caterpillars of the great American silk moths and had wonderful photographs. Well, Sheldon happened to be a moth fancier. There were some nice things I learned from him, and one of them was about the silk moths, of which there are about seven species in the United States. I was fascinated with that; I don't know that it helped somatotyping much.

Well, we were talking about the use of strobe light, and he sent me down to Cambridge. Where was [Harold Eugene] Edgerton?

Hughes: Edgerton was at Harvard.

Roll: So I spent an afternoon with Edgerton, who was a charmer.

Hughes: What would have been the advantages of a strobe?

Roll: It's a lot easier to carry strobe around than to set up a whole lighting system. Mine was a traveling business--setting up in college gymnasiums.

Hughes: And Edgerton was a well-known figure?

Roll: Oh, he was very well known--Life Magazine with the pictures of hummingbirds and drops of milk falling from a spoon.

Hughes: Had those already been published?

Roll: Oh, yes.

Hughes: This was about 1950?

Roll: About.

Hughes: He was willing to talk to you?

Roll: Oh, yes, he was apparently perfectly willing to talk away all day. It was remarkable. Mind you, aside from my intellectual problems [with Sheldon's method], I was having a wonderful time. I was meeting people I never would have met otherwise.

Hughes: I understand from talking to Lita Osmundsen that these trips were encouraged by the Wenner-Gren Foundation.<sup>17</sup>

Roll: Oh, yes--the Wenner-Gren Foundation paid my expenses.

Hughes: She maintained that her job was to try to introduce standard technique into anthropology.

Roll: Oh, yes. I mean, Fejos was very much interested in new techniques--

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Roll: --in photography, and made a great fuss about it. And rightly so. I got all that part firmly in my head.

The other photographic jaunt I had with Fejos's sponsorship was a trip to Milwaukee, Wisconsin, to visit the Stereo Realist Company. We talked about stereo and color. They were an outfit that made stereo cameras. We had one of those around for a while, too.

Hughes: And did you use it?

Roll: No. We took a few pictures. It wasn't really a useful thing. It involved having to take slides and put them in a special projector. There was some man in Oregon who did a huge album of mushrooms in stereo. The book came equipped with a stereo viewer.

Hughes: Stereo photography was used in ophthalmology at an early date.

Roll: Oh, yes, and came in very useful for that.

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<sup>17</sup>Telephone conversation with Lita Osmundsen, March 13, 1990.

Hughes: David Donaldson at Massachusetts Eye and Ear developed it.<sup>18</sup> Did you have any contact with him?

Roll: No. I think that was about the end of my photographic ventures.

Hughes: Was that the only technology that you were pursuing outside the laboratory?

Roll: Yes, I think so. The Wenner-Gren Foundation also had three aerial cameras that Fejos had gotten somewhere. I used to have one of those. I don't know what I did with it. A second one, they gave to [Jim] Tanner. They were wonderful for solving problems of parallax. But the subject had to be thirty feet from the lens, which was awkward. It's hard enough to find a place fifteen feet from the lens to set these things up. And that was the standard distance we used.

We did a lot of experimenting in the laboratory itself. For a while we had several lenses with different focal lengths. It was pretty well standardized at a nine-inch focal length, at a distance of about fifteen feet. It was a matter of working out what focal length a 35 mm lens would need to avoid the distortion to the same degree that a nine-inch portrait lens would. All the photographs I took were five-by-sevens with a nine-inch, great big portrait camera.

Hughes: Now, had you done any photography?

Roll: No.

Hughes: Did you pick up photography on your own?

Roll: I suppose Dupertuis taught me as much as anybody. At Columbia it wasn't too difficult because the camera was on a fixed tripod which screwed into the floor. Then all of a sudden I was confronted with a camera on a portable tripod. I remember I had fifty film holders, each of which held two negatives. At night I had to empty all those into something in the pitch dark. I remember in Wisconsin it was so cold that when I took them out it made a streak of lightning so that they all came out with zigzags in the print.

Hughes: And you were developing and printing as well.

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<sup>18</sup>See: David Glendenning Cogan, M.D., Ophthalmology Oral History Series, A Link with Our Past, an oral history conducted in 1989 by Sally Smith Hughes, Regional Oral History Office, University of California, Berkeley, in cooperation with the Foundation of the American Academy of Ophthalmology, p. 58.

Roll: No, I learned that sort of on the side, but we were having it done commercially in the neighborhood of Columbia Medical Center. The reason for my doing it was that we were not very happy with the results we were getting.

I went to the University of Iowa first and set up the camera. We had a beaded screen, like a movie screen, for the backdrop. And strobe light.

Hughes: What was the advantage of the beaded screen?

Roll: As a contrast to human flesh. It's much better than black for that kind of photography.

This had been worked out before I got there. It gives it a kind of a three-dimensionality if the picture then is done on the right kind of film and printed on the right paper. There are a lot of "ifs." There are not many good somatotype photographs, I confide to you.

Hughes: Were you using non-shrink paper all along?

Roll: Yes.

Hughes: Sheldon had always done that?

Roll: Well, he hadn't always. Now we're digressing to another wonderful story.

There were two sets of photographs of a series from Princeton, and why we had two sets of them, I can't imagine. They were printed at different times. For some reason or other, I had them both out, or I had somatotyped one of them, and then maybe I took out the other later to see how my accuracy was; I don't remember that aspect of it. After I'd rated a photograph I'd look at my earlier one, of which I had a record. They weren't always agreeing, which had me puzzled. So finally I got out both sets, took out a pair of calipers, and measured the heights of the figures on the print. Some of them differed by as much as a centimeter, which was shocking. We found one roll of paper had been cut one way, and the other one the other way, and some had stretched. Then we had to go to the photographer who did the processing and raise hell.

This is the thing that Tanner really had under control. He always was meticulous about this, and they did their own processing. As I have said, technically, Tanner really was king of the mountain.

Well, I went to the University of Iowa, put up the beaded screen, got the strobe light set, tested it. It was flashing, which was always a relief. And put the camera up. We had little data boards for the number of the subject and the height and the weight and the age. So I focused the camera on the data board. It was not in focus. I was getting nowhere very quickly. Well, it wasn't five o'clock in the afternoon yet, so maybe there was a photographic store open. I was absolutely defeated. I didn't know anything about focusing.

So I found a man at a camera store and I dragged him over to this gymnasium on the university campus. He said, "You're focused on the church in the next block." [laughter] I was abashed. Sending a child out to do a man's job. How Sheldon could be so naive, I can't imagine. This is a measure of his lack as a scientist. If that had been Jim Tanner, he would have had me there with that camera before I left New York and made me focus it forty-eight times--and take a few pictures of the data board. Not so with Sheldon.

Well, I got it in focus, and boy, I learned right then and there how to focus that bloody thing. There must have been fifteen hundred photographs before I was through with that trip, and I don't think more than three or four were spoiled in any way. Once I got the camera in focus I never had to refocus it except to check it once in a while to be sure that somebody hadn't knocked it off its base.

Hughes: You didn't run into any other problems?

Roll: If I did, I have conveniently forgotten them.

#### Howard V. Meredith

Hughes: There was a man named Meredith at Iowa, whom Lindsay mentioned.<sup>19</sup>

Roll: Howard V. Meredith. By the time Lindsay came into the somatotype scene, he was a professor at the University of Iowa. Lindsay did his graduate work at the University of Iowa in Ames.

The physical educators at the University of Iowa were very much interested in somatotype, and had been from the beginning of Sheldon's publications. There was a man named [C. Harold] McCloy,

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<sup>19</sup>Interview with Dr. Lindsay Carter, February 17, 1990.

and there was Howard Meredith, and there was Frank Sills, a medical doctor, Lindsay's sponsor. I was there in 1949, and Lindsay was there in the mid-fifties as a graduate student. Of course, that's where he became interested in somatotype.

Howard Meredith was a specialist in child development. He may not have been in the physical education department. I think he actually was in a child growth study at Iowa with which I never had any intimate connection.

Howard Meredith was very sharp, very critical. He was a sharp-tongued man. I don't know whether he was at Iowa when Varieties of Human Physique came out, but he wrote, and I have somewhere, a review of that book, that was a real scathing critique.<sup>20</sup>

Hughes: What was his main point?

Roll: The main point was lack of documentation and bald statements without evidence, which included the embryonic layers' relationship to the three components, but also included his saying that there were so many people at such-and-such somatotype, without evidence of how he arrived at that number. Actually, Meredith was right.

Of course Sheldon seethed when he thought about Howard Meredith. I'm sure he had some fitting description for him, as he did for all people whom he disliked. I don't know that they ever met. They probably did, though. Anyway, I knew Meredith later. He must have later gone to the University of Oregon.

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<sup>20</sup>Howard V. Meredith. Comments on 'Varieties of Human Physique.' Child Development 1940, 11:301-9.







Barbara Honeyman Roll, 1988.

*Photograph by Fred Roll.*

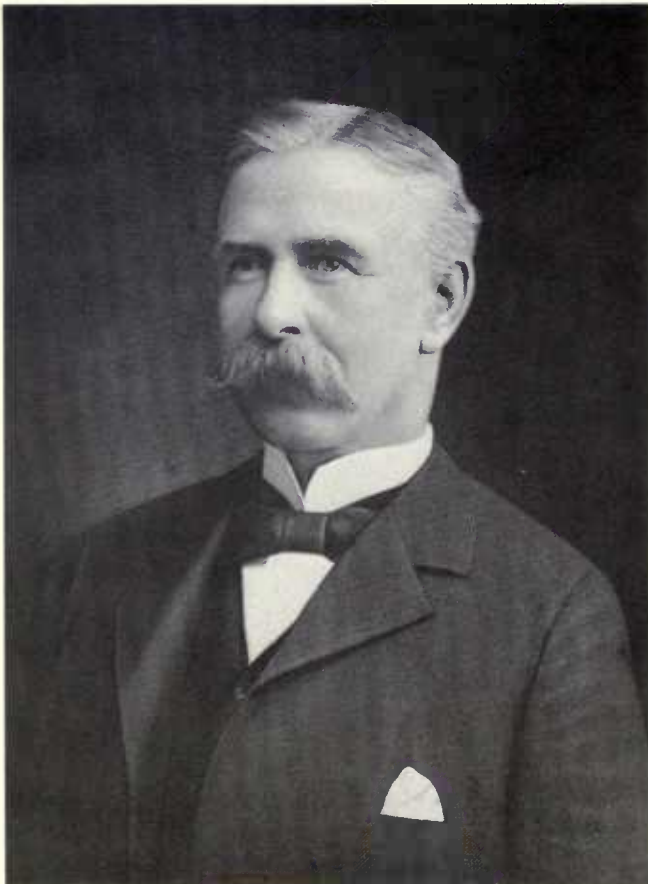


Sally Smith Hughes and Barbara Honeyman Roll, 1992.

*Photograph by Fred Roll.*



Barbara with her great-great-aunt, Barbara Ritchie, in her nineties.



Paternal grandparents. Walter J. Honeyman and Jessie M. Honeyman.



Parents, Arthur and Carlotta Honeyman -- on a visit to Midwest and Atlantic coast at the time of my brother Parker's wedding, 1939.



The ranch house near Ilwaco, Washington, where I grew up, 1910-1932



Left to right: Barbara, Parker, Alan and Catherine. Portland, Oregon, 1917.

*Photograph by Arthur Honeyman*

Barbara and her pet calf  
Evangeline, 1923.



Ilwaco High School debating team, 1926. Left to right: Mr. Devoe (debate coach), Catherine Williams, unidentified, Rachel Belknap, Mary Patricia MacGowan, and Barbara Honeyman.



Barbara Honeyman Hirsch, 1934.

*Photograph by Gladys Gilbert.*



Harold Seller Hirsch on Traveler, 1945.

*Photograph by Barbara Honeyman Roll.*



Reunion of cousins, 1993. Front row, left to right: Jill Honeyman (David's wife), Barbara Honeyman Roll, Nancy Honeyman Robinson. Back row: Blakeley Honeyman, David Honeyman. *Photograph by Fred Roll.*



Bernice McGregor Church, her granddaughter, Barbara Roll, Lenore McGregor Gray, 1985. Bernice and Lenore were my mother's maternal first cousins. Both are in their late eighties in this photograph. *Photograph by Fred Roll.*



Family gathering after Grandmother Honeyman's funeral, 1948. Front row: left to right, kneeling: Carlotta Honeyman (my mother), Barbara Honeyman Hirsch, Ruth Honeyman Barker (my father's sister), standing: Marian Blakeley (Honeyman) Richards, Arthur Alan Honeyman (my brother). Back row: Harry Yuile (husband of Bellene), Bellene Cunningham Yuile (my father's first cousin), Arthur Honeyman (my father), Archie Clark (husband of Kay Cunningham Clark), Mary Baumgartner Honeyman (wife of Blakeley Honeyman), Edward Cunningham (my father's cousin, father of Kay Cunningham Clark), Tom Hindman (a third cousin), Blakeley Honeyman (son of my father's brother, Bruce Honeyman). *Photograph by Harold Hirsch.*



Frances Ilg, M.D., Carmel,  
California, 1977.

*Photograph by Fred Roll.*

William Herbert Sheldon (left, originator of concept of somatotype) and Eugene McDermott (founder of Texas Instruments and benefactor of somatotype research), 1950.

*Photograph by Barbara Roll.*



Left to right: Margaret Mead, Barbara Heath Roll, John Kilepak Kisokau, 1969.

*Photograph by Alan McEwen, Monterey Peninsula Herald*



Left to right: Pwendrilei Pondraken and Scott A. Heath, M.D., Pere Village, Manus Island, Papua New Guinea, 1971.

Translation of sign: Pere Eye Clinic (Doctor Heath). Sign made by Pwendrilei and his friends.

*Photograph by Barbara Heath Roll.*



Barbara Roll presenting the book *Stori Bilong Pere* to people of Pere Village, 1983. *Photograph by Fred Roll.*





John Kilepak Kisokau and Margaret Mead, 1975. Margaret transcribes as Kilepak translates a eulogy of Scott Heath from Titan (his own language) to Melanesian Pidgin.

*Photograph by Barbara Roll.*



Fred and Barbara Roll with Josep Bopau in Pere, 1978.



Elizabeth Hirsch (Harold's second wife), Harold Hirsch, and Barbara Roll. Portland, Oregon, 1978.

*Photograph by Fred Roll.*



Left to right: Janet Wentworth Smith, Barbara Roll, Janet Hirsch Willis (my adopted daughter).  
Ross, California, 1983

*Photograph by Fred Roll.*



Home of my niece Martha and her husband Larry Reed. Left to right: David McCormick (Martha's son), Catherine Engmark (my sister and David's grandmother), Martha Sibley Reed (Catherine's daughter), Fred Roll, Barbara Roll, Stuart Honeyman (son of my brother Alan), Sue Wagner Honeyman (Alan's widow), Scott McCormick (Martha's elder son). Menlo Park, California, 1991.



The apartment of Tatiana and Valerie Alexeev in Moscow. Barbara Roll with Dr. Tatiana Alexeeva and Dr. Natasha Miklashevskaya, professors at the Institute of Anthropology of Moscow State University in Moscow, 1985.

*Photograph by Fred Roll.*

Barbara Roll with anthropologist protegés Richard Shoup, Ph.D. (left) and Joan Schall Murray, Ph.D. (right). International Congress of Anthropology, Simon Fraser University, Vancouver, Canada, 1984.

*Photograph by Fred Roll.*



Barbara Roll and Dr. Lakhmir Sidhu (left front) at the National Conference on Physical Education and Sports Sciences. Roll gave an invited lecture on somatotype. University of Patiala, Punjab, India, 1986.

*Photograph by Fred Roll.*



Professor Lindsay Carter and Professor Derek Roberts at Lindsay's home in El Cajon, California, 1989.

*Photograph by Fred Roll.*



With anthropology peers at International Congress of Anthropology in Vancouver, Canada. To my right is professor William Ross of Simon Fraser University, who organized a special program honoring my seventy-fifth birthday; and to my left is Doctor Richard Shoup. 1984.

*Photograph courtesy of Simon Fraser University*



Family picnic in honor of John Kilepak Kisokau, who visited us for several months. Standing in back row: Blakeley Honeyman (my first cousin), Lee Honeyman (my niece). Left to right (adults): Catherine Honeyman Engmark, (behind Catherine, David McCormick, her grandson), Scott McCormick (Catherine's other grandson), Wakefield Troy (Lee Honeyman's son), John Kilepak Kisokau, Carlotta Troy ( Lee Honeyman's daughter), Carol Honeyman (Blakeley's wife) William Troy (Lee Honeyman's son), Martha Sibley Reed, Barbara Roll. Carmel Beach, Carmel, California, 1979. *Photograph by Fred Roll.*



Family gathering at dedication of sculpture my sister and I commissioned in honor of our grandmother, for whom the park is named. Left to right: Carlotta Honeyman Sinkey, Sue Wagner Honeyman, Ruth Honeyman (Stuart's divorced wife), Fred Roll (behind Sue), Ron Honeyman (third cousin), Barbara Roll, Meg Honeyman Saxon, Stuart Honeyman, Catherine Honeyman Engmark, Martha Sibley Reed, and third cousins Roderick and Alfred Aya. Honeyman State Park, Florence, Oregon, 1986.



Barbara Roll and Posolok Kilepak looking at Posolok's translation of Donne's "No man is an Island," to Melanesian Pidgin. Pere Village, 1976.

*Photograph by Fred Roll.*

Piwen Langarap Rihatta of Pere Village visits the Rolls in Carmel, 1992. Piwen is an administrative officer in the Personnel Department of Air Niugini.

*Photograph by Fred Roll.*



Barbara Roll, namesake Barbara Lokes, Professor Francis Johnston, Joe Lokes, Chauka Lokes, Joe's wife with younger daughter, and two of Chauka's nieces. Lorengau, Manus Island, Papua New Guinea, 1991.

*Photograph by Fred Roll.*



Pomat Paliu (from Pere Village) on a brief visit to Carmel, California, 1984, when he was representing Papua New Guinea at the United Nations in New York City.

*Photograph by Fred Roll.*



Philip Posenau and Barbara Roll. Philip is the project director of Project Concern International Office, Lae, Papua New Guinea. Carmel, California, 1992.

*Photograph by Fred Roll.*



Barbara Roll and young friends, Pere Village, 1986.

*Photograph by Fred Roll.*



At the president's house, Smith College, Northampton, Massachusetts, 1989. Barbara Roll, Professor Richard Dunn, and President Mary Maples Dunn.

*Photograph by Fred Roll.*



Front row, left to right: Sally Smith Hughes, Barbara Roll, Catherine Honeyman Engmark (Barbara's sister), Fred Roll. Back Row: Mary Emory Haberstock (Fred's daughter), Roy Haberstock (Mary Em's husband), Alan and John Haberstock. Smith College, Northampton, Massachusetts, on the occasion of award of honorary L.H.D. (doctor of humane letters) to Barbara Roll, 1989.



**SOMATOCHART**

M = 3.6-4.0-3.1

N = 232

SDM = 6.0

Subjects: Adult males in

ATLAS OF MEN

▲ = Mean somatotype

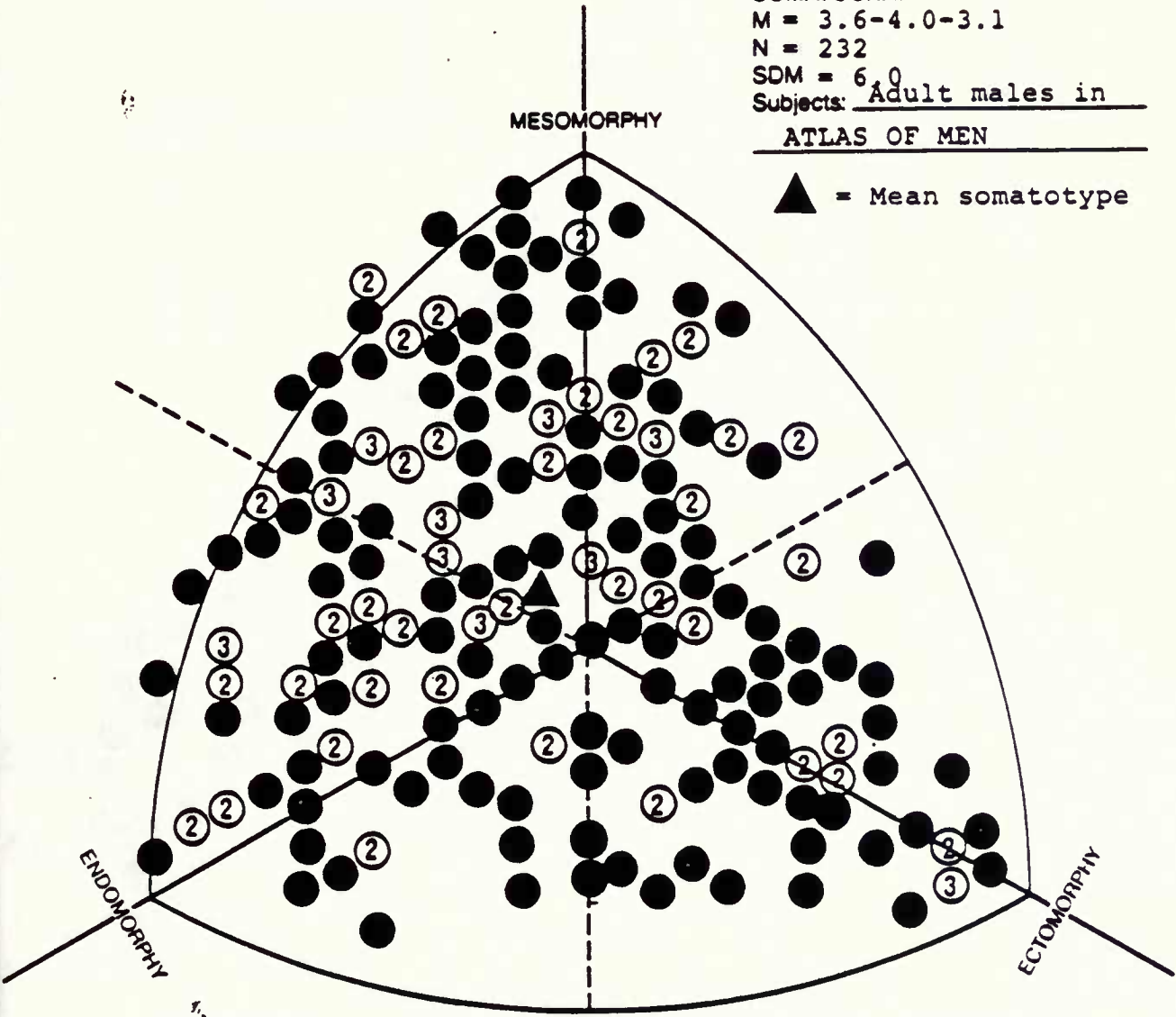


Figure 2-2. Somatotypes of adult males, 18 to 59 years old, in Atlas of Men. Ratings by Sheldon, 1954 method. (Redrawn from Carter, 1985.)

MANUS MALES

SOMATOCHART

M

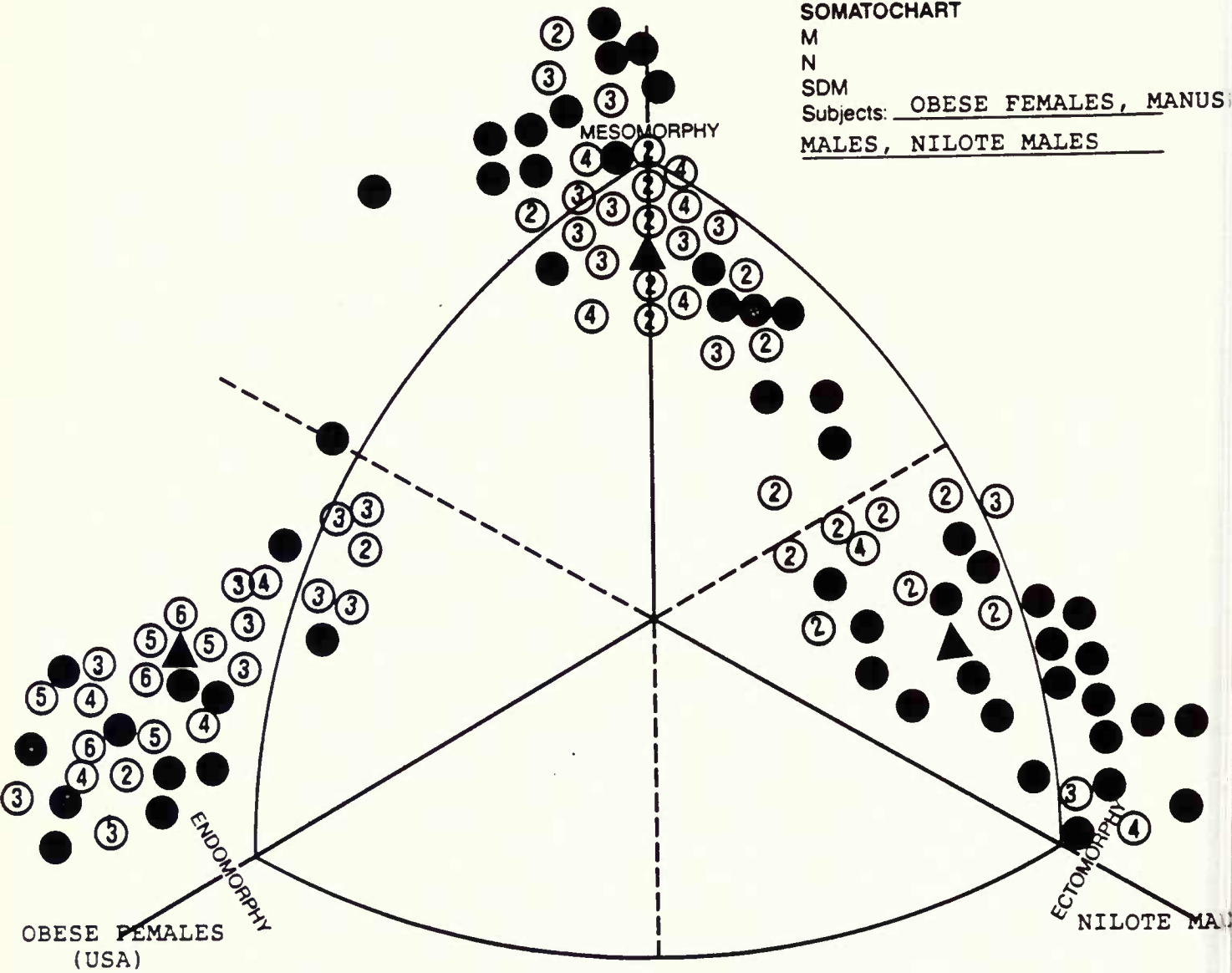
N

SDM

Subjects: OBESE FEMALES, MANUS

MALES, NILOTE MALES

MESOMORPHY



OBESE FEMALES  
(USA)

NILOTE MALES

# SOMATOCHART

▼ = 3.6 - 4.0 - 3.1

■ = 232

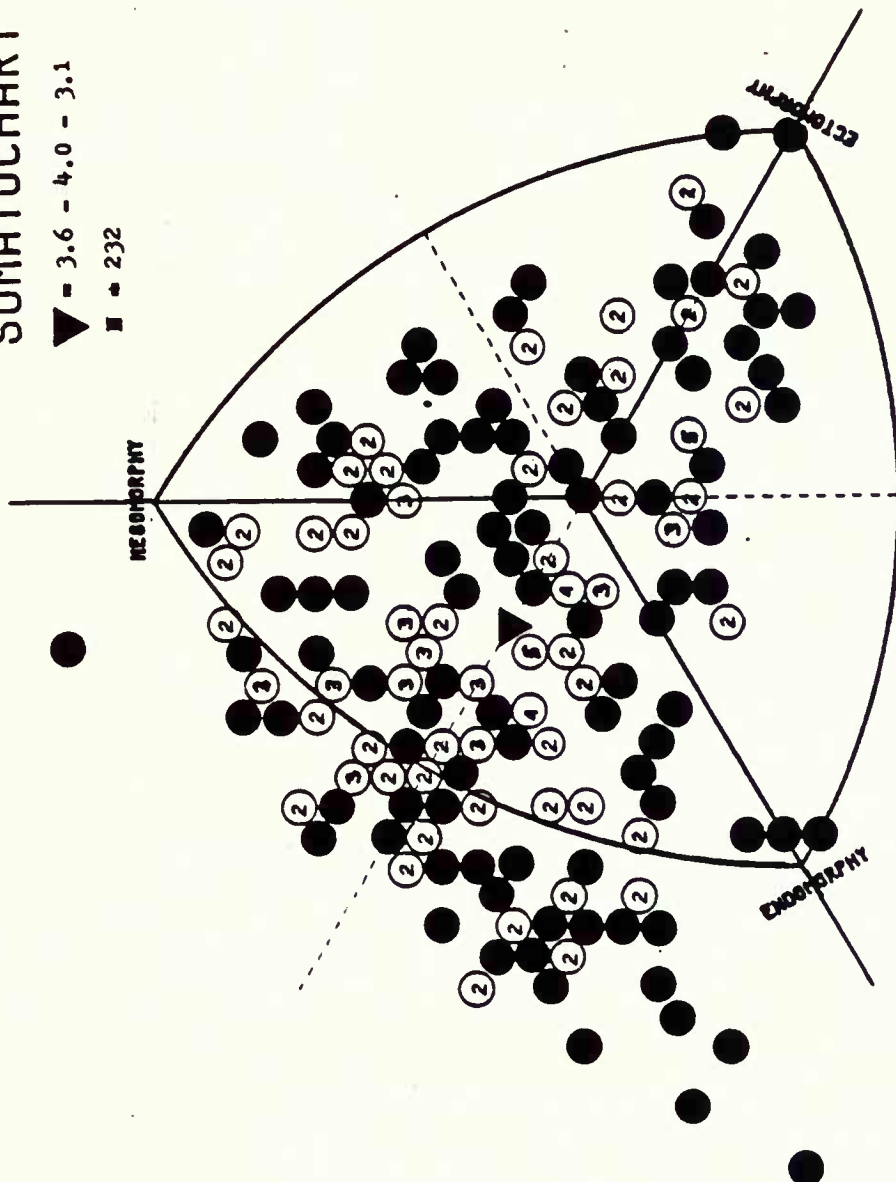


Fig. 5-3. Somatotypes of adult males, 18-59 years old, in Atlas of Men. Ratings by Heath, Heath-Carter photoscopic method. (From Carter, 1985.)

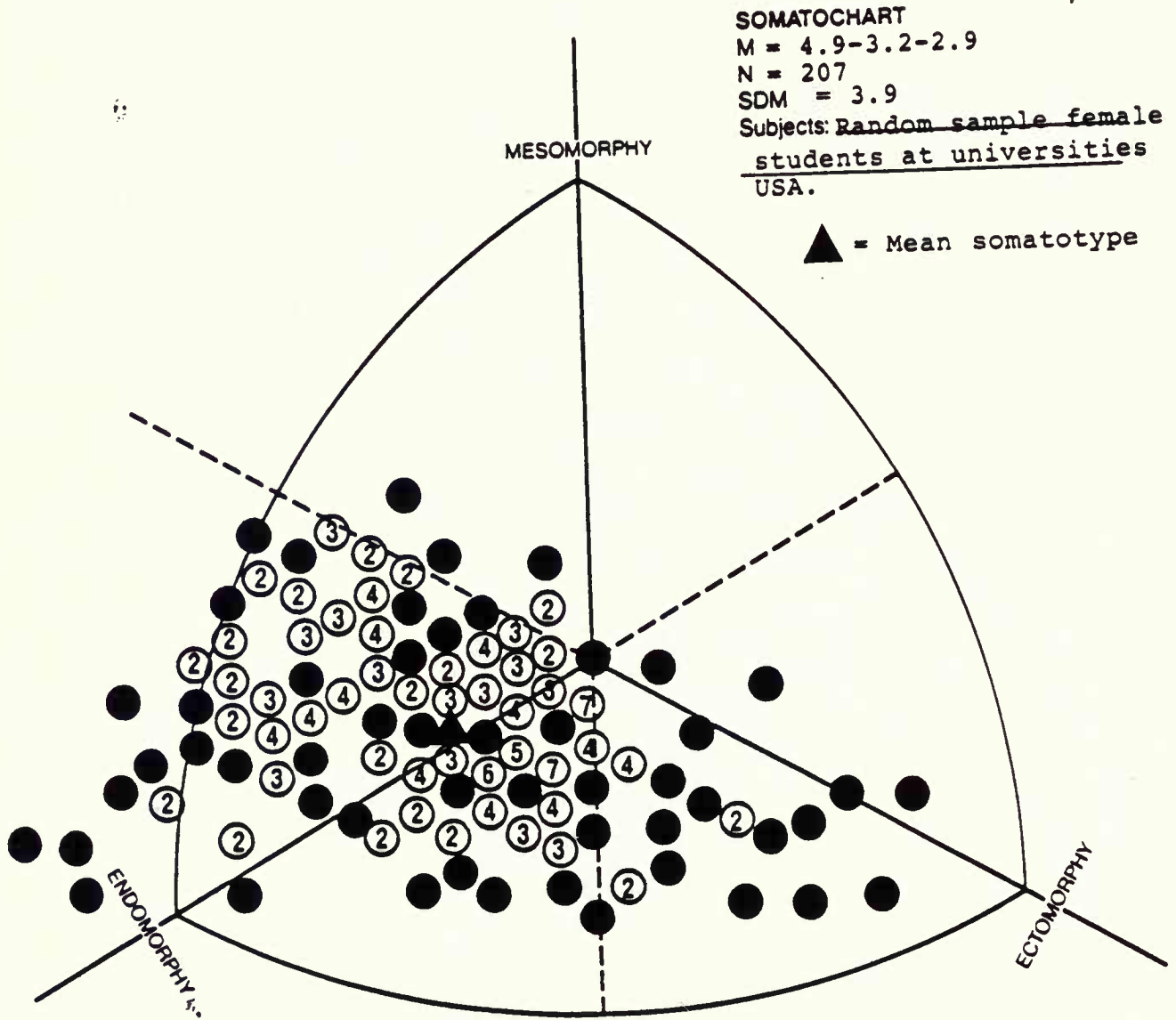


Figure 3-40. Somatotype distribution of a random sample weighted by institution of approximately 68 (207/3,529) or female students from 10 northeast and midwest universities, USA.

### III INDEPENDENT SCHOLAR

#### Graduate Student, New York University, 1953-1954<sup>21</sup>

Roll: When Scott came into my life, I had an additional reason for leaving the University of Oregon Medical School project. He had finished his residency. He didn't know where he wanted to practice, so he thought the best thing to do was work for somebody else for a while. So he went back and worked for a man in Hartford. That was not a huge success.

Hughes: Were you talking about marriage?

Roll: We were talking about it but we hadn't settled the question yet. So I decided on the immediate solution of returning to New York. I still had an apartment in New York, which McDermott paid for as part of the grant that he made. McDermott said, "Sure, it's yours as long as you want it."

Well, the physical educators are the best ones to work with when it comes to somatotyping. They don't squabble among themselves, they're interested in human physique, and they know that there are bodies under those clothes. They're nice to deal with. The chairman of the department of physical education at NYU, Leonard Larson, whom I had met, invited me to come and do a Ph.D. at NYU.

I thought seriously about going to Columbia. I talked to [Theodosius] Dobzhansky at Columbia, who thought it was a splendid idea. I decided that was going to be a long, hard struggle which I didn't really need desperately right then, and that NYU would be a better deal for me.

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<sup>21</sup>For better chronology, the following three sections were moved from their original position earlier in the transcripts.

Hughes: Why was it more difficult at Columbia?

Roll: Oh, well, anthropology departments are just stuffier. They fancy themselves as being the intellectual arbiters of the world. The physical educators are far less full of themselves, and often do just as good research as anybody else.

When I went back to NYU, Leonard Larson said, "What do you want to study?" I said, "What do you recommend?" He said, "Obviously you're an anthropologist. Now, here are the best people that teach the most interesting courses. Of course you have to have statistics as well."

So I took a series of courses that were absolutely marvelous. One of my favorites was a physiological psychologist named Rockwell. He was delightful. Another was a man named Zorba, a fascinating character. He was a full professor at NYU in the anthropology-sociology division who had never gotten his Ph.D.--a marvelous man who had written books on the deterioration of the inner cities. This is back in 1950. Also I took a very good course in statistics, and some excellent courses in research method from the physical educators. That was a great year.

Scott and I got married in the middle of this. He decided the hell with Dr. Birge and came to New York.

Hughes: Was that a personality problem?

Roll: I suppose so. I don't remember any details now. Birge was probably rather a slave driver, which didn't go down very well with Scott. Scott did some work in the eye department at Columbia Medical Center.

Larson was interested in my writing a dissertation on modifying somatotype method. I still have it around somewhere.

Hughes: You mean you actually wrote it?

Roll: I wrote the prospectus for the whole thing, and a big block of text.

Not long after I started at NYU, Roscoe Brown, a black, became greatly interested in what I proposed to do with somatotype method. He knew a good deal about somatotype and had some opinions about the flaws in Sheldon's methodology. Roscoe said, "If you like the idea, I would love to supervise your project. I don't think Leonard would mind." I was enjoying Roscoe's course in research methods, and personally liked him very much. He and Scott and I used to have long discussions about the problems of

the Blacks. Remember, this was 1954, the time of the Brown vs. Board of Education milestone.

Leonard Larson was the department chairman and an extraordinarily busy man who didn't need me as a responsibility. He had been most generous to simply invite me to be in the Ph.D. graduate program. So, Roscoe became my advisor. By the end of that first year, I had everything done. I had almost all the courses I needed; everything was all buttoned up except sticking around to finish up the dissertation.

Meanwhile, it was pretty obvious Scott needed to start a practice. So we talked about going to Eugene and finishing up the Ph.D. there. Luther Cressman thought that would be splendid.

Hughes: Why was Luther Cressman involved?

Roll: Oh, while I was at Oregon, he had been very much interested in my somatotype project. I've forgotten how I met him. He was Margaret's first husband. In the end we decided that we might get stuck in Eugene and then would find it difficult to move on to something else. We knew we didn't want to live in Eugene for the rest of our lives.

#### The Move to Carmel, California, 1954

Roll: Well, Scott was an exceptionally foresighted person. When he took his national boards at Yale Medical School one of the options was a California medical license for a nominal fee. So he had his California license.

Both of us really leaned toward California, and we both loved Carmel. So we started in southern California and had a look at all the possible places we might settle. We didn't care for Chula Vista or La Jolla and so on.

Incidentally, we took my mother on this tour. Eventually we got to Carmel. Both of us had been here before and had thought it was just great. Scott had a list of the ophthalmologists in the area. He called on a couple of them, and learned a little bit about the medical community. One of the senior men, Howard Clark, was very friendly. He said any well-trained ophthalmologist could make a living here. He also told Scott about a Dr. Paul Messier who had a bad reputation in the medical community, because he had made a practice of doing cataract surgery on patients whose cataracts were far too early for surgery. Howard Clark said that

he had substantially reduced the number of potential cataract patients. Scott's reaction was that Messier needed some competition with a rigidly ethical eye surgeon.

We also decided we should take advantage of one great advantage a doctor enjoyed: he could live and work where he would otherwise hope to retire. For Scott, whose longevity proved elusive, it was a particularly felicitous decision.

We decided that we would control overhead by having me work with Scott in the office. After all, I had been working as a volunteer in various medical settings for years. As you know, I ran the office for the twenty years that Scott was in practice. It turned out to be a highly advantageous way to go. With such low overhead, we were able to buy and pay for this house and the beautiful adobe that was our office.

By this time I had opted out of going through the rest of the Ph.D. routine.

Hughes: Was that a hard decision?

Roll: Not really. But I find it difficult to explain. I have never found it too difficult to make my wishes secondary to the priorities of marriage. In this case, I decided that the thing to do was to be a freelance somatotype expert and to try to get the modification piece published--which I shortly did, as a matter of fact.<sup>22</sup>

Hughes: Was that the dissertation?

Roll: No. The "Need for Modification" is really a bare-bones extract of the dissertation.

#### James M. Tanner

Roll: I forgot earlier to talk about Jim Tanner, who became quite important in my new freelance career. Jim came out to Portland while I was still at the medical school. He had gotten in touch with Sheldon and said he wanted to learn more about somatotyping. He had done some with Dupertuis, and being a smart man, he knew that Dupertuis hadn't taught him everything. So he decided to go

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<sup>22</sup>Barbara H. Heath. Need for modification of somatotype methodology. American Journal of Physical Anthropology 1963, 21:227-33



to the source. Sheldon decided he didn't want to take him on, so he pushed him off on me.

Tanner turned out to be an attractive and gifted Englishman, who had graduated from the University of Pennsylvania Medical School on an exchange arrangement during World War II. When he came to Portland in 1952 (I think), he was doing research, including somatotyping, at the Sherrington School of Physiology, and later at the Institute of Child Health at the University of London. He became a world authority on child growth. He also set up a research project known as the Harpenden Growth Study, where he followed the growth of a rather large sample of children. Tanner is a meticulous researcher and has completed an impressive body of work.

After his visit in Portland, he periodically sent me series of photographs to somatotype, which I gladly did. He said I could keep the photographs and do what I pleased with them, in exchange for making ratings. All through the 1950s he sent me exceedingly interesting series of somatotype photographs and data. There were athletes in the British Empire Games, most of whom he also somatotyped at the Italian olympics. There were successive series of medical students from St. Thomas' Hospital, English Channel swimmers, male and female diabetic patients, Sandhurst cadets. All in all a fascinating collection.

What I learned from the Tanner series is the enormous value of anthropometry. I have been baffled by Tanner's attitude toward his anthropometry. So far as I could tell, he never made any attempt to relate the anthropometry to criteria for arriving at somatotype ratings. He seemed to be orthodox Sheldonian in somatotyping.

Hughes: How did he use the anthropometry?

Roll: I suppose he used it in other ways. I haven't paid enough attention to his growth studies to comment intelligently. As I suggested earlier, his growth studies are important and significant.

Hughes: So were you the first to bring the photoscopic and the anthropometric techniques together?

Roll: Not quite. [Richard W.] Parnell did that first. I'll try to explain.

It was Lindsay Carter who called my attention to a book by Parnell called Behavior and Physique.<sup>23</sup> Parnell had worked with Tanner. He took somatotype photographs and included the same measurements that Tanner did. In fact, I guess they did some of them together. He was the one who saw the relationship between endomorphy and skinfolds.

Parnell also was working on somatotype ratings without photographs, which I don't approve of. Of course it turns everybody on, because it avoids time, expense, and occasional reluctance of subjects to be photographed. Oddly enough, remarkably accurate somatotype ratings can be made with anthropometry, but no photographs. Parnell corrected his anthropometric-only somatotypes for age. If Parnell had taken the one little step of eliminating the age correction, I would have been out of business. Just incredible.

Lindsay and I realized what Parnell had omitted in his remarkably original approach to somatotype rating. We corrected Parnell's interpretations of the anthropometry. We worked out our modifications very carefully. In the course of the next several years we wrote the three articles defining our modified somatotype method, which is now commonly called the Heath-Carter Somatotype Method. All three of these were published in the American Journal of Physical Anthropology.<sup>24</sup>

I did all of these things at home and at my desk in Scott's office. I became known as a somatotype expert, and I got collections of somatotype photographs and data from all over the goddamn world. I made a bargain that I would either charge one dollar per somatotype or keep the photographs. I had takers for both. Actually, I earned several thousand dollars, as well as accumulating a remarkable library of somatotype photographs. It was incredible.

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<sup>23</sup>Richard W. Parnell. Behavior and Physique. London: Edward Arnold, 1958.

<sup>24</sup>Barbara H. Heath and J.E. Lindsay Carter. A comparison of somatotype methods. American Journal of Physical Anthropology 1966, 24:87-99; Heath and Carter. A modified somatotype method. American Journal of Physical Anthropology 1967, 27:57-74; Heath and Carter. Growth and somatotype patterns of Marus children, Territory of Papua New Guinea: application of a modified somatotype method to the study of growth patterns. American Journal of Physical Anthropology 1971, 35:49-67.

Hughes: Let's go back to Parnell for a minute, because I associate him with the M.4.

Roll: He called his somatotype method the M.4 method. I don't know what the M period 4 period were for. He devised a card on which he recorded all the measurements. He gave instructions for interpreting the measurements.

Hughes: Were these measurements that Parnell himself figured out?

Roll: No, they are classical measurements. Tanner used the same ones. I'm not sure why the two of them picked those particular ones. There may have been some good reason; I never even thought about it.

The odd thing about Tanner was that although he had all these beautiful measurements, he did not use them in making somatotype ratings. He even published the raw data as part of his publications. I used his published raw data and the raw data he included when he sent series of somatotype photographs to me. The more I saw of anthropometry the more I realized that it was impossible to validate somatotype method without an anchor in objective measurement.

Tanner and I carried on a lively correspondence about somatotype method. When I look back upon it, I am astonished that I was so trusting. I wrote to him about each modification that I was working on, with detailed explanations and illustrations of the reasoning I was using. His standard reply was tactful, but the message was: "Don't meddle with the method Sheldon laid out. I agree changes are needed, but wait a little. I am going to perfect a mathematical model that will solve all the problems." I have the whole correspondence.

At the same time I kept in touch with Carl Hopkins, who encouraged me to continue with my modifications. However, he did not offer to collaborate in the project. There also was a professor [Charles Torrance] at the Navy Postgraduate School [in Monterey] with whom I discussed my notions about somatotype modification. He was a mathematician. He said, "Yes, I think you're right. What you are doing to modify Sheldon's method is mathematically as well as logically sound."

Eventually I concluded that Jim was motivated by an abiding hope that he might get some money from McDermott for his research projects. I suppose I still retain enough of the old Yankee Puritan ethic to be offended by venality that suppresses ethical standards. In short, so as long as there was a chance of getting

money from McDermott, he wasn't going to jeopardize his chances by deserting the Sheldon system. Attractive, isn't it!

Hughes: So he wasn't buying your arguments.

Roll: No, he really wasn't. At least, he said he wasn't. I believe he thought there was a better way of doing it [somatotyping].

Hughes: He thought his way was a better way of doing it.

Roll: His way, which hadn't been worked out yet, and never was, to my knowledge.

Hughes: Who is Tanner?

Roll: James Tanner is an Englishman who graduated from Oxford, and was just the right age for medical school during the war. He went to the University of Pennsylvania Medical School on a special exchange arrangement during World War II. When he returned to England, he went back to Oxford and got a degree in anthropology.

Tanner is an attractive man who thinks he's God's gift to women, and has tended to hang the scalps on his belt. I should add that I escaped. When he came to Portland, Scott expressed immediate skepticism about Tanner's possible motives. In fact, he insisted on going with me when I went to meet him at the airport. When Jim left he said, "It's a shame you've been so well chaperoned."

However, the important thing about Tanner is that he is an outstanding authority on child growth. His Harpenden Growth Study is perhaps the best such study anywhere. It included several hundred children with very little attrition as they were followed, I think it was, every six months. Some of them were followed from age eighteen months or so to eighteen and twenty years.

Jim did impeccable measuring and impeccable record-keeping. He had a faithful technician, who was rather like an army sergeant who came along with one into civilian life. The two of them tested and retested until they were sure there were almost zero errors.

Hughes: Did he add the skinfold measurement?

Roll: As far as I know, he and Parnell both did it about the same time. Part of the time they were working together. In the end they had a falling-out.

Hughes: What was that over?

Roll: I don't really know. I know why Derek Roberts fell out with Tanner. Derek decided that there wasn't room for him. His specialty is genetics. Tanner became the director of the Institute of Child Development in London at the University of London. Derek began looking elsewhere and landed in Newcastle.

Hughes: Was Tanner sympathetic to what you were trying to do?

Roll: Not really. He didn't think anything would come of it. And I know what he's going to say when our book comes out. He's going to say, "But that's not somatotyping."

Studies at the Institute of Child Welfare, University of California, Berkeley, 1954-1956

The Children's Growth Study

Roll: First a little about the Institute of Child Welfare in Berkeley and the collection of longitudinal photographs and data there.

The Berkeley Institute of Child Welfare had one of the earliest growth studies that used photographs as part of their data. This was in the 1920s, before somatotype photographs existed, before Sheldon had published anything about somatotype. They took unclothed photographs of children twice a year. There were boys and girls--and there must have been as many as three hundred, I think, total. As I remember, the study was part of some project in the public schools in Berkeley. The study was carried out by a man named Stoltz who was, as I remember, a physical educator, and a man named Harold Jones, who was the project director.

Hughes: Jones was an anthropologist?

Roll: No, he was a psychologist. In any case, Sheldon had vague connections with people who were involved in this growth study. One of them was a very nice woman named Janet McFarland. I think she was a psychologist. Sheldon had seen some of the photographs in the collection on a trip out to the West Coast, before I had anything to do with the Constitution Laboratory.

About the time that we started the project in Oregon, the physical educators had their big annual meeting in Los Angeles. On the way to the meetings, we stopped in San Francisco and also went over to Berkeley to visit the Institute of Child Welfare.

While we were there Sheldon and I rated, I think, most of the Institute of Child Welfare series. During this procedure, Sheldon persisted in peeking ahead to see what a subject looked like at age eighteen. As I remember, the study started at age thirteen and ended at age eighteen. Meanwhile, I tried to take the photographs one at a time, without trying to anticipate subsequent photographs.

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#### Roll's Involvement with the Children's Growth Study

Roll: About four years later when I moved to Carmel, I met Nancy Bailey, and I don't remember how. Nancy Bailey, I think, was a pediatrician, and she had been connected with the Terman IQ Study at Stanford, a gifted-children program. She and a pediatrician named Leona Bayer had done research together on growth of children. Nancy Bailey was interested in somatotype, because she had worked out a formula to predict adult stature from babyhood. Really very interesting. She had followed some of these children long enough so that she found out there were certain ones whose stature she had misprophesied. I've forgotten at what point, but I remember Nancy and I knew that what she was looking at was some of the slow-developing mesomorphs, dominant mesomorphs, who had a growth spurt at about age eighteen. So look, I said, he was going to be five-foot-six and he's five-foot-ten. She was a very interesting, exceedingly nice woman. I suppose it was after that that she went back to Washington, was at one of the institutes of health in Bethesda. Anyway, I was in touch with her for quite a long time.

Well, she put me back in touch with Harold Jones, with the growth study in Berkeley, and she also had had communications with a woman who was a professor of nutrition at the University of Hawaii, Carey Miller. Carey Miller had taken somatotype photographs and a lot of measurements of one hundred Japanese boys and one hundred Japanese girls, and these were all students whose parents had been born in Japan. And she also did measurements, but not photographs, of their parents. The most conspicuous thing was the great increase in stature in the second generation. For purposes of hiding identity, she put paper sacks over their heads. [laughs] I should show you these pictures. Unbelievable. Sheldon always said he would have nothing to do with a photograph

if the subject wasn't strictly undressed. Well, I wasn't as fussy. I found I could somatotype them even with paper sacks over their heads. I would have been rather interested in what was under the sack, but I knew the rest of it did nicely.

So here I was newly established in Carmel. I immediately got in touch with Nancy Bailey because I wanted to continue what I was doing. Sheldon arranged somehow or other with the people at the Berkeley growth study to have Ann Turner go through this series and make drawings of them. She was not to remove any of the material from the premises. They then found that she did. She was taking these photographs home with her, and that created quite a lot of flak. Meanwhile, there were some other people involved in that study not particularly interested in the photographs.

Hughes: Barb, how could she possibly draw a physique accurately enough to make deductions from it.

Roll: You can't. What she was doing was copying a photograph in a drawing, and then stating what the measurements were. But for atlas purposes it wouldn't be very helpful.

I don't know whether Ann's incursions in Berkeley were over by the time I went up there. We came here [Carmel] in the fall of 1954. It must have been 1955 when I got in touch with Nancy Bailey and went up there. Harold Jones, of course, had all of Sheldon's ratings of this series, so he was extremely interested in the idea of my doing them my way. Well, the "Need for modification of somatotype methodology" had just been published. But there was no reason for anybody to take that three or four pages very seriously.

Jones, like almost everybody else who ever dealt with Sheldon, had questions to ask. So he acquired a grant. It was a substantial amount, two or three thousand dollars as I remember, and he in effect shuffled the photographs and gave them out to me a couple of hundred at a time. As I say, there were upward of two hundred subjects, I'm sure, and there were up to twenty-five or thirty photographs of each subject. This was a formidable performance, just the kind of thing I love, because I really wanted to see, if I wasn't prejudiced by looking at the year before, what it would look like by the time I put them all back together again.

Well, I suppose that in the majority of cases, by the time a child is six or eight, you can make an educated guess at what the young adult somatotype might be. But there were some exceptions that were so fascinating that I just never got over it. They were relatively few, but dramatic. I've forgotten when those photographs were taken, but it amounted to a thirty-year followup. They found about 70 percent of the original series living around

the Bay Area, and brought them in, rephotographed them, and remeasured them. The changes in somatotype between age eighteen and thirty were just electrifying. The thing that interested me, and I had seen hints of this in that West Point series-- This is the kind of thing that for some obscure reason never occurred to Sheldon as a point of interest, but I saw increases in mesomorphy and stature between the first and fourth year at West Point. Here were these men who had grown two inches or so after eighteen. Marvelous.

Hughes: What did he say to that?

Roll: Well, I don't know that he ever knew that. You see, this was my doing, and I don't know if they ever showed it to him. He would have just sniffed. "Oh, well, it's just a fat mesomorph." Not only had they grown in stature, but they had significant increases in mesomorphy. And then, of course, there was lots of fine blooming endomorphy all over the place, which was to be expected.

So this became a very interesting series. I've never done anything with it. There was a graduate student named [G.H.] Zuk who did a study which Lindsay and I quote. I always thought that I'd like to go back and do something more about this series, but I never have.

Hughes: Did Harold Jones do anything with it?

Roll: Harold Jones in the meanwhile died; I've forgotten just when. Stoltz was long gone. Nancy Bayley retired and went to live in Medford or Klamath Falls [Oregon] or somewhere, and Janet McFarland retired. There was a whole change of venue at the institute. So nothing much came of the series.

#### The Wenner-Gren Foundation

Roll: After 1953, my connection with the Wenner-Gren Foundation was a personal connection. I had continued my friendship with Fejos and Lita Binns Fejos Osmundsen. From the very beginning we had been very close friends.

When I decided to go to NYU, I asked about the possibility of some kind of a grant. Fejos immediately gave me, I think it was, \$3,000, which at that point was a lot of money. It certainly amply paid for NYU and living expenses. Marvelous. And thereafter, whenever I had any project, the Wenner-Gren Foundation generously supported it. I'm not sure that I can enumerate all of them.



After the NYU experience, there must have been quite a hiatus, because I don't think I went on any field trips. But my first field trip was to New Guinea in 1966. Wenner-Gren gave me grants for three trips to New Guinea, I think.

### Making Molds of Fossil Skulls

Roll: Later, long after Fejos had died, Wenner-Gren paid to train me to make molds of fossil skulls and parts of fossil skulls. Fejos found a man who had a special process for making molds of fossils. It was a rather remarkable process. It started with a rubbery soft plastic that was easy to remove from the original fossil. The cast itself was made of some unusual material that made very realistic, beautiful casts. The Wenner-Gren Foundation financed this project, which made molds and casts of many of the most important fossil remains--not only skulls, but all kinds of early human fossil remains.

Hughes: Why did you get involved with this?

Roll: Who knows?

Hughes: There's no link with somatotype, is there?

Roll: No, I don't suppose there is. All my life, I have had a tendency to get into projects that don't seem to be really connected. The mold-making project came much, much later--at the beginning of the 1970s

Hughes: Did you ever use the technique?

Roll: Yes. When I was in Russia, on one of the several occasions, I learned about the most famous of the fossil remains that Russians had, which was known as the Tesik-Tash child. It was a skull of a Neanderthal child which was discovered near Tashkent, at the confluence of two rivers, neither of which I remember right now. An anthropologist named A.P. Okladnikov made the discovery. It's a very complete skull, and also some of the skeletal bones were found. Its particular significance is that it was one of the earliest known human burials. It was clear that ceremonies had surrounded the placing of the skeleton, because there were all kinds of things gathered around it that indicated a burial. It was quite easy to estimate the age of the child at death, because the deciduous teeth were in place. The bony coverings had worn away showing the second teeth above, that had not erupted yet. He was eleven or twelve years old. It's a perfectly beautiful specimen.

Hughes: How old is he in eons?

Roll: As I remember, somewhere around 30,000 years, which is substantially Neanderthal.

Minx (now Lita Osmundsen) said to me that it would be nice if they could make a cast of the Tesik-Tash skull. As I remember, several people had talked to V.P. Yakimov, the director of the Institute of Anthropology in Moscow. The skull was kept in the museum of the institute.

I probably broached the subject with Yakimov as early as 1973 at the Congress of Anthropology in Chicago. Yakimov was there and he was in great spirits, so I talked to him, with a little encouragement from various people. I got the impression that he would let me do it--I was certain he wasn't about to let anybody else.

I reported this to Minx. I said, "Of course, I don't know how to make these casts." She said, "I'll train you." I said, "I think it's a little late to train me to do things like this." "Oh, no," and that sort of thing. So I asked Margaret [Mead], and Margaret said, "I think that's wonderful. Why not? The longer you keep on learning things, the better."

I think this was in January of 1974. Of course, I couldn't foresee what kind of awful things were going to happen to me. I went to New York in January, stayed with Margaret, which was great entertainment, and traipsed out in the snow to New Jersey every day. This must have gone on for two or three weeks. There were two girls at the Wenner-Gren Foundation who were also learning to make the molds.

The making of the casts were immaterial to any of us. We were just supposed to be able to know how to make molds of fossil materials. So the Wenner-Gren Foundation rented a car for us. I remember the girl who drove it. However, one day all the roads were closed and we had to take the bus, and I remember nearly freezing to death out on a highway in New Jersey waiting for a bus. It was really a remarkable experience.

Hughes: For what purpose were the molds going to be used?

Roll: Well, my plan was to learn to make the molds, and go to Moscow and make a mold of Tesik-Tash.

Hughes: Which would be used to study?

Roll: Oh, yes. The Wenner-Gren Foundation sold the casts to anthropology departments, who bought them to be used as teaching aids. The idea was that there would be all these wonderful

reproductions, of which we could say: "Behold, this is Peking Man" and "This is Teshik-Tash" and "This is the Taung child."

We used existing casts to make molds of. We'd put on layer after layer after layer of this plastic stuff. It was a very complicated performance. The process took several days, after which we peeled the mold off. It was an extraordinary performance.

Later that year [1974], Scott died. After that I renegotiated the business of going to Moscow. Yakimov said yes, that would be fine, and I set off in January of 1975, a year after I'd learned the technique. Meanwhile, the Wenner-Gren Foundation had sent me all of the mold-making materials which I stored out in the garage, including a whole barrel full of plaster of Paris. I practiced out in the garage.

#### Teshik-Tash

Roll: The Wenner-Gren Foundation gave me a grant to spend six weeks in Moscow, which was a considerable grant, because it also included air fare. And they also had to pay air fare for a huge trunkful of supplies. I had to somehow or other get that out of the airport at Moscow, which was quite a project. To my surprise, we managed to have the shipment delivered to the Institute of Anthropology. I don't remember the details.

Unfortunately, the project did not come to the glorious end I had dreamed of. I have some good photographs. Teshik-Tash was brought out of the case.

Hughes: Which was at the institute?

Roll: This was at the institute in the laboratory. People had never been allowed to touch it. Here I am, smearing it with all this plastic material. Okladnikov came to visit the institute. His visit was unrelated to my being there. It just was a pleasant coincidence. I have a picture of him examining Teshik-Tash through all this goop I had put on it. I also have pictures of Teshik-Tash before I put the stuff on, after it was covered with it, and so on.

I can't remember the details. I only know that at some point Yakimov got cold feet. He told me he couldn't let me take the mold home. I'm sorry to report I had a tantrum in both English and Russian. [laughter] I was furious. To say nothing of being horribly embarrassed to have to tell this to Minx.

Roll: Finally Yakimov dug out their other Neanderthal fossil, which they were less touchy about.

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Roll: It was a fossil jaw.

Hughes: Why had he gotten cold feet after you'd made the mold?

Roll: I think there was some Russian bureaucracy involved.

Hughes: So he'd gotten the word from on high.

Roll: Yes, I'm sure. Somebody else got involved in it. And poor Yakimov was terribly embarrassed about it.

Hughes: But you didn't take the skull?

Roll: I couldn't very well kidnap it. So Yakimov brought out the other one, and I did a cast of it. It was the lower jaw. I've forgotten how much else there was. In any case, I made a mold, and was allowed to take it with me.

So I returned to London complete with my mold. I wanted to get it safely back to the Wenner-Gren Foundation as soon as possible, so I gave it to Fred [Roll] to take to Minx.

He had a little fun with customs when he went through with his box. They said, "What's that?" He said, "It's a thirty-thousand-year-old boy." Whatever else he said by way of explanation, he was allowed to proceed through customs with his trophy. When he went to New York, he delivered the mold to Minx at the Wenner-Gren Foundation.

The whole mold project pretty much unraveled shortly afterwards. The Wenner-Gren Foundation decided that the mold-making and casting program was far too expensive to justify the results. To my knowledge, no cast was ever made of the beautiful mold I made in Moscow. I don't know how many thousand dollars they had invested in me.

#### The Work and History of the Foundation

Hughes: What sort of a force was the Wenner-Gren in anthropology?

Roll: The Wenner-Gren Foundation became a very big force, and remained so. When in the course of a few weeks after the fund was in operation the anthropologists stopped being squeamish about the

source of the money, all of them flocked to obtain grants. It was the only source of money that was for anthropology alone. Originally, the Wenner-Gren endowment was very much larger than it is now. I don't suppose I still have any of the annual reports which I used to get, but I recall they used to disperse several million dollars a year.

Hughes: For research?

Roll: For research.

Hughes: Did the foundation itself do any research?

Roll: They did some work that amounted to research in various technology developments.

Hughes: How successful were they in getting across technological improvements to anthropologists?

Roll: They used to loan cameras and strobe lights and I've forgotten what all--I suppose anthropometric instruments which I wasn't using. One by one, they gave up these things. In those days they also had a big staff.

Hughes: Lita Osmundsen spoke rather disparagingly to me about receptivity.<sup>25</sup> She said particularly the cultural anthropologists were not very interested in quantification.

Roll: Oh, yes. Well, that's true. She could speak to that much better than I could. All of them certainly were eager to be helped financially. Of course the only ones I knew were the physical anthropologists, so I have a skewed impression. Nonetheless I'm sure she's right. She's the authentic source.

In any case, the funds shrank, and now the administration of the foundation has changed a lot. I can't describe it accurately. Minx is the only one who knows the whole story.

Hughes: It was originally called the Viking Fund?

Roll: Yes, it was called the Viking Fund for Anthropological Research. They used to have a Viking Fund Medal and a Wenner-Gren Fund Medal every year. There was an elaborate presentation and dinner, to a couple of which I went.

Hughes: For outstanding work in anthropology?

Roll: Yes. The people who got it were outstanding.

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<sup>25</sup>Telephone conversation, March 13, 1990.

Other Somatotype Methods

Hughes: As you well know, there was more than one somatotype method. Would you say a word or two about some of the other methods?

Roll: First of all, calling anything a somatotype method just means that there's a system of describing human physique with three components. So basically anything that is a somatotype method is derivative from Sheldon's original method, as is the Heath-Carter method. I think it is safe to say that none of the various modifications associated with the modifiers' names ever came to a great deal. They were not widely used by more people than the originators.

Earnest A. Hooton

Roll: Probably the greatest number of somatotype ratings ever made were done according to Hooton's modifications. I cannot accurately describe Hooton's method, but I think it is worthy of note that Hooton was sufficiently interested in the idea of somatotype to arrange, with his considerable influence, to take somatotype photographs of a very large number of American military at the time of their demobilization after the war. I don't know exactly how many there are, but I would think that it might easily be of the order of twenty thousand or so. It's a large sample. There were photographs and the measurements. I do not know what the measurements were, but I have the impression there were more than height and weight. I remember his method involved something about arm length, which, if I ever knew, I have forgotten. In any case, all the photographs and data are stored in the Peabody Museum. I suppose they're still there; I don't really know.

Hughes: And nobody has done anything with them?

Roll: Not that I know of. Very few people have ever looked at this collection.

Hughes: What was his aim in collecting them?

Roll: I don't really know what his aim was. I suppose that he thought it was a sound idea to be able to describe the human physique in what appeared to be, or promised to be, an objective fashion. What further he thought was going to be done with the material, I don't know. There was, after he had all the photographs rated, a publication, and I think it was a U.S. government publication. I

have seen either the whole thing or parts of it. I don't remember what he concluded, but I think that he subdivided the series into groups for age and their specialties in the military. He separated out the blacks, I know. Whether he had enough Orientals and others to count, I do not know. Someone else looking at whatever analysis he did might have gotten more of it than I did. I had just paid attention to doing the modifications of the Sheldon method, and had a reasonably good basis for my conclusion that the others weren't going anywhere. But other people looking at it more disinterestedly might find more in it than I did.

I suppose Hooton did part of the rating himself. I don't really know this, but I would assume he did. He handed over a lot of it to two colleagues. One of them was James Andrews, a most attractive man, whom I met when I was in Cambridge meeting the people interested in somatotyping. I think three people did the rating and analysis of all this data. Except for the government report, to my knowledge there's never been much of anything done with it. I know several people who have looked at some of it. One of them was Al Damon.

#### Al Damon

Roll: Al Damon was an attractive, bright, in fact rather gifted man. He got a Ph.D. in anthropology with Hooton. He then went to Harvard Medical School. When he graduated, he got the plum of all internships, which was in the Department of Medicine at Columbia Medical Center. He went from Harvard to Columbia College of Physicians and Surgeons in the Department of Medicine under Professor Loeb, who was a very well-known professor of medicine. He came to Columbia after I left Sheldon, and because Sheldon was still there. He had known Sheldon from early on and was interested in somatotyping from an early stage.

Al Damon, after he finished all of his medical training, went back to Boston and worked at least part of the time in the School of Public Health at Harvard, and part of the time, I think, at a dental research institute known as the Forsythe Dental Infirmary. I don't know whether it was Forsyte or Forsythe.

Al Damon did a considerable amount of somatotype research. He stayed pretty close to the Sheldon method. I knew Al very well, and we were always very friendly. He did a series of very old men--I think they were Spanish-American war veterans--which he sent to me. I somatotyped that series. He did a study of truck drivers, and I've forgotten what he proved, but he came to some kind of conclusion.

Hughes: Do you know what his overriding interest was in somatotyping?

Roll: He hoped to find some correlates with disease, with anything medical. I think he probably did turn up a limited amount of not terribly definitive material. But he kept data all his life. Al, unfortunately, developed a fatal malignancy. I think of it as being some kind of a bone malignancy. I remember that he went around on a cane for a long time. He died before he was fifty, which is pretty young. He was an exceptionally nice man; also a very honorable and honest research person. If he collected some data, you could be sure that it was meticulous work.

Hughes: What about Adelaide K. Bullen, H.L. Hardy, and E.E. Hunt, Jr?

Roll: I don't know who Hardy was; I don't even know whether Hardy was a man or a woman, now that I think about it. But I knew Adelaide Bullen. She was doing something around Harvard. I presume she got a Ph.D. at Harvard in anthropology. I never really knew that part of her history. But she had a collection of women's somatotype photographs. I don't remember where they came from. I never saw them. They may have been taken at Radcliffe. In any case, she tried to deal with how to do somatotype ratings of women. This was before I had done anything with them at all. She made up a separate list of criteria for each component for women--which I think is a total waste of time. That approach took one right back to adjectival description. I don't recall what the outcome of the only article I can remember was.

After Bullen was in Boston, she went to the University of Florida. I remember meeting her and her husband at anthropology meetings. It seems to me he was a curator and professor in the art department. I remember she used to come and listen to me when I gave papers, which of course gave me a high opinion of her.

Another anthropologist who became interested in somatotype because of Sheldon was Ed Hunt, who was a well-known physical anthropologist. He went from Harvard to Pennsylvania State University. Ed Hunt took some somatotype photographs on the South Pacific island of Yap. I have never seen them.

Hughes: Why there?

Roll: They are South Pacific people, rather like the Guamanians in the Marianas. There has always been an interest in the people of the South Pacific.

Hughes: Now, are these all efforts to characterize ethnic groups in other parts of the world?

Roll: Well, yes. They were an answer to the realization that it would be interesting to know more about other ethnic groups, to know as



much about everybody as possible. I don't think it's a very big series. I think Hunt probably published something about it, but I don't remember what.<sup>26</sup>

Hughes: When you look at these narrow ethnic groups, ones where you assume the gene pool is not terribly diverse, do you find a clustering of somatotypes?

Roll: Well, what little I know of it, we do.

Hughes: Intuitively, you expect it.

Roll: Yes, intuitively, you expect it, and I think it's true. As far as I know, that's true wherever you go in recently primitive cultures that have had a constricted gene pool.

#### Stanley Garn

Roll: The other person who was early interested in somatotype is Stanley Garn, who is now at the University of Michigan in Ann Arbor. Stanley went from Harvard to the Fels Institute in Yellow Springs, Ohio. His specialty is child growth and development. He was involved in some kind of somatotype studies. I don't know what became of the photographs, or how many there were. He also worked at the Forsythe Dental Infirmary. I met Stanley on my first trip to investigate somatotyping. He was then a graduate student of Hooton's. I spent a whole day with him. He's a very funny man. He is the wit of physical anthropology. Did I mention that he took me to Hooton's house to tea?

These were the people that I got acquainted with. Also in that same year, and through the Harvard connections, I met Bill Laughlin. Bill Laughlin was the first person who told me about actually taking a seminar from Sheldon during a summer session at Columbia. Which is very unusual; I don't think anybody ever tolerated that again. But Bill thought highly of the idea. He's never done any somatotype research himself, but he has always been interested. I've always been in close touch with him.

Hughes: He's a physical anthropologist?

Roll: Oh, yes, very much so. All of these people are physical anthropologists. Of course there are some psychologists who are interested in somatotype. There are some cultural

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<sup>26</sup>E.E. Hunt, Jr. Physique, social class, and crime among the Yap islanders. American Journal of Physical Anthropology 1951, 9:241-2 (abstract).

anthropologists who are interested to a mild degree. I've come across various things they've done which I didn't think were significant.

**Thomas K. Cureton**

Hughes: We haven't said anything about Cureton.

Roll: Tom Cureton was a physical educator who knew Sheldon from the beginning. He was one of the ones who did ratings of a certain number of photographs under Sheldon's supervision. There were a half-dozen people who did this sort of thing. Cureton continued to be interested in somatotyping. He insisted that the triangle should be turned the other way around, with mesomorphy on the bottom right-hand side instead of being up at the top of the triangular distribution. Which mixed everything up.

Hughes: Do you know why he said that?

Roll: No. I have no idea. I suppose he thought he knew why he said it.

Hughes: You said yesterday that Sheldon always had greater consistent support from the physical educators than he did from the anthropologists. Am I remembering right?

Roll: You're remembering absolutely rightly. He made bows to the physical educators fairly often.

Hughes: Why do you think he had more success with them?

Roll: Well, for one thing, many of them had dealt with posture pictures. So this was the next step. And because almost all of them were interested in physical performance, which meant describing why some physiques were performing well and some were not, and differences. We were aware of differences in the kind of performance that was appropriate for certain physiques and not for others. This was a kind of a natural alliance.

Hughes: Lindsay said to me that the permanence of the somatotype, as far as he was concerned, was a useless concept.<sup>27</sup> That one of the things he wanted to do was to be able to map the changes in the somatotype through life. I know he's not a physical educator in the sense of being a coach. He's a kinesiologist, right?

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<sup>27</sup>Interview with J.E. Lindsay Carter, February 17, 1990.

- Roll: Yes, among other things. He is primarily a physical educator who does academic research.
- Hughes: I wonder if the permanence issue became a problem with the physical educators because they were in a good position to observe changes in somatotype.
- Roll: Of course it was a problem for them. And some of the research physical educators are very sharp people. I have great respect for the research that's done in the P.E. departments. The chasm that exists between the athletic directors and the physical educators is enormous. They don't communicate with each other a great deal.
- Hughes: It's a problem of science?
- Roll: Yes, sure. And it's a problem of a kind of intelligence, among other things. The faculty at the University of Iowa were exceptionally bright people. The same was true in all those universities. I knew many of them; they were sharp.
- Hughes: Do the physical anthropologists pay any attention to what is being done by the physical educators?
- Roll: Yes, they do. There's a considerable collaboration. In fact, there are several anthropologists who have Ph.D.s in both physical education and anthropology.

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- Roll: The academic disciplines have missed the sharpness of serious research people in physical education. I think they've also overlooked how many people in both physical education and anthropology have very sound medical backgrounds. For example, there was an orthopedist in Hartford, Charles Goff, who was extremely interested in somatotype. His specialty was a congenital bone disease called Legg-Calvé-Perthes syndrome--or congenital dislocated hips. We went down to Hartford and took somatotype photographs of the series of the children that he had done research on. He had taken care of them as an orthopedist as well. Later he wrote a book about the disease, for which I did the somatotype ratings.<sup>28</sup>

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<sup>28</sup>Charles W. Goff. Constitutional Aspects. In: Legg-Calvé-Perthes Syndrome. Springfield, Illinois: Thomas, 1954.

**Derek F. Roberts and Douglas R. Bainbridge**

Roll: All the people we've just been talking about were playing with slight modifications of Sheldon's original method. One other minor modification was made by Derek Roberts. Derek Roberts is an anthropologist and geneticist who, early in the history of somatotyping, went to the Sudan all by himself.

Derek took a lot of anthropometric measurements and somatotype photographs of several hundred of the Nilotic blacks in Sudan. A remarkable study. There's an enormous degree of ectomorphy among them. When he was trying to analyze the material he brought back he recruited a young immunologist, Douglas Bainbridge, to ponder the statistical problem he had found.

Bainbridge was very well trained in mathematics. Both he and Derek were pretty sophisticated about statistical manipulations. They discovered that Sheldon's closed scales simply would not accommodate these extraordinarily ectomorphic people. So they modified the scales to fit the Nilotes. (We'll reserve the place that the Nilotes played in the Heath-Carter method for later discussion.) In other words, Roberts and Bainbridge recognized the need for modification of Sheldon's scale.

**Richard W. Parnell**

Roll: Parnell is probably the most important of all the people who dealt with somatotyping and modified it. Parnell is an English physician. To my knowledge, he didn't have other degrees. He worked in the student health service at Oxford after he had his medical training. How he got interested in somatotype, I don't know. I do know that he and Tanner were interested at the same time, and that they were associated in somatotype studies, which I think were taking place at Oxford.

Parnell somehow--I don't know the history of how he arrived at this--realized that anthropometry would be useful. I suppose he had been trained in anthropometry, and I suppose that it was not unusual in studies of growth and other studies to take anthropometric measurements. He saw that there was a relationship between endomorphy and subcutaneous skinfolds.

Parnell devised a card upon which he recorded the ratings in each component that corresponded to the appropriate skinfolds, bone diameters, circumferences, and ratios he had worked out from his considerable data. It was an impressive attempt to introduce objective measurements into Sheldon's anthroposcopic criteria.

Unfortunately, Parnell retained Sheldon's seven-point rating scale and tables corrected for age changes in measurements. This meant that he devised a system built on the same assumptions that had raised doubts about Sheldon's method.

I suppose Lindsay was unhappy with Sheldon's system in part because of the prejudices of the people at Iowa, and partly because of his own intelligence. I think perhaps because he's a New Zealander he was familiar with what was going on in England, and therefore learned about Parnell's work.

Early in my correspondence with Lindsay, he asked me if I knew Parnell's work. I did not. But I saw the point very quickly. Because of the material I had from Tanner, I was familiar with anthropometry and could see the value of it. So I got Parnell's book and began to think seriously about how we could adapt his reasoning to our own.

Hughes: Now, why do you suppose that Sheldon had never considered anthropometry?

Roll: There is no rational explanation for much that Sheldon did. It is tempting to say, "Oh, he was just lazy." I don't think that was the reason. I think it was perversity. It's the only way I've been able to explain his behavior.

Hughes: He was perfectly aware that anthropometric techniques existed?

Roll: Oh, of course he was. He was also scornful of statistical procedures. He said, "Oh, well, that's just academic bullshit."

He used to tell me about the various anthropometric measurements. He reeled off the indices people used. He knew all about the measurements that were taken on skulls. Many people were still taking anthropometric measurements of skulls long after I was in the game. It wasn't ignorance. He'd been exposed to all this. He regarded himself as an anthropologist, I think. It's hard to imagine how he could omit so much from conventional procedures, without any recorded rationale.

Parnell, on the other hand, was a well-motivated man who also was very much interested in behavior. He wrote three or four books about his method and about physique and behavior. He did studies of whole families and looked for somatotype links and behavioral links among relatives.

Hughes: With some success?

Roll: Well, with moderate success. He was pointing in the right direction. One could have more faith in what he said, because he wasn't a flamboyant man.

Incidentally, I finally met him. He was a very sweet man, a thoroughly nice person. Fred and I went to a suburb of Birmingham where he had retired, and had tea with him and his wife. In fact we have a couple of attractive photographs of him. We found him quite disillusioned with the whole somatotype business, not able to make the jump to what Lindsay and I were saying. Lindsay and I both met him on different occasions. He has died since our visit.

Hughes: What problem did he have with your method?

Roll: I don't know.

Hughes: How about G. Petersen's method for children?

Roll: I don't know that that qualifies as a method. Petersen thought he was making Sheldonian somatotypes. He is a Holland Dutchman, who was involved in an enormous study of Dutch children's growth. He published an atlas of children, which I have.<sup>29</sup> He somatotyped them all. However, he not only didn't do any anthropometry, he didn't record the heights and weights. [laughter] I don't know what was the matter with him. I know he's an M.D., so he should have put together an organized, reasonably objective book. Actually, the whole series is valueless. There's nothing one can compare it with in any dimension.

Hughes: You did a review of his atlas.

Roll: Yes. The above is essentially what I said about it.

So Petersen didn't really have a method. He had pages of encomium for Sheldon. He carried on at great length. Apparently Sheldon was the second coming in his eyes.

Hughes: What about the Leuven method?

Roll: Oh, that's Belgian. Lindsay's the one who is familiar with that study. I only know that several investigators in Leuven, Belgium, did a somatotype study that involved modifying the Heath-Carter method. I gather the study was really far out.

Hughes: I want to discuss the Medford equations. But maybe you first want to go into the Medford Study.

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<sup>29</sup>G. Petersen. Atlas for Somatotyping Children. Assen: The Netherlands and Springfield, Illinois: C.C. Thomas, 1967.

The Medford Growth Study

Roll: Yes, I think I'd better tell you about the Medford Growth Study. Incidentally, I can tell you at the beginning I never took much interest in the Medford equations. I had Heath-Carterized over a thousand boys, and I could see no reason for worrying about the notions of some graduate student who thought maybe Heath and Carter didn't really know much, didn't have the last word.

The Medford Study really is a very interesting study, and a very good study. There were two professors of physical education at Springfield College, which was rather a mecca of physical education. It is a small college in Springfield, Massachusetts, whose claim to fame was physical education. There were several of the best people in physical education who comprised that faculty. One of them was a man named Harrison Clarke. I met Harrison Clarke somewhere, I can't remember where. I met most of the top physical educators in the course of my dealings with Sheldon.

Harrison Clarke and his colleague, Eslinger (I don't remember his first name) at Springfield, were invited to become the research professor and the dean of the University of Oregon School of Health, Physical Education and Recreation. (I think that is the full name of it.) I remember making a special trip to Springfield to talk to them about this prospect. I told them that the University of Oregon had a pretty good school of health and physical education. It was a big part of the university, with its own building and so on. I told them I thought it was a good opportunity.

The chairman who had been there for a very long time was retiring. The powers-that-be in the university decided they wanted to upgrade the school of health in P.E. So they invited Clarke and his colleague, Eslinger, to come out and run the department. They both accepted, went out there, and spent the rest of their careers there.

Harrison Clarke is an amiable and bright man. Another person like Lindsay who couldn't conceivably twist any data. Just a straightforward researcher. I suppose that the man who ran the physical education programs in the Medford schools must have had some connection with the school at Eugene. I imagine he graduated there. He also may have had some adjunct connection; I don't really remember.

Anyway, he and Harrison developed the idea of a longitudinal study of boys in the Medford schools. They started with the first grade and followed them all the way through high school. It was what you call a mixed longitudinal study. For example, in the first year of the study, they included first-graders who were to

be followed all the way through. Then they had a cross-sectional group that were about second-grade age. The third grade was another longitudinal group, and so on, up through the eight grades.

So the data they aggregated were partly of subjects who were seen every year and partly people who were picked up at a later age. Some of them started, for instance, in the eighth grade, but they were in the longitudinal section and were followed all the way as long as they were in that school. There was of course some attrition because some kids move away, but a remarkable number of subjects were followed for twelve years. Harrison asked me to be the somatotype consultant for this study, for which I got paid.

As a matter of fact, I picked up a remarkable amount of money in those years as a consultant, for just rating a set of photographs. I usually gave them a choice of paying me two dollars per photograph or letting me keep the photographs. Most of them let me keep the photographs, wherefore I have a large collection. I have the whole collection of the Medford series as well.

The data from the Medford series was used by Harrison Clarke's graduate students for their dissertations. Some of them were doing master's degrees, some of them were doing Ed.D.s, and some of them were doing Ph.D.s. There was quite a variety, some of whom were very bright. One of them is Bill Ross, who is now a full professor at Simon Fraser University in Canada. He is one of the great converts to the Heath-Carter method. They were all nice boys, and I knew them all. I used to be called up to go to Medford when they were photographing, to inspect whether they were doing their measurements right, and so on. By the way, they did do all of the anthropometry. So we have that from them.

Hughes: What was Harrison Clarke's purpose in all this?

Roll: Physical educators were primarily interested in the relationship between individual physical performance and somatotype, and many of them were interested in seeing if they could discern early on any particular athletic bent. Some of them were interested in psychology, as a matter of fact. Harrison's son, David H. Clarke, did a whole battery of psychological tests. There's quite a battery of physical education tests and reaction time too. They measured vital capacity and oxygen uptake. In other words, there were a lot of physiological tests. There were performance tests, like reaction time.



Hughes: Is there anything to be said about the paper that you published with Harrison Clarke and his graduate student, Irving?<sup>30</sup>

Roll: I don't think that there is an enormous amount.

The Medford Study is regarded in physical education as an important source of data. The raw data and the analyzed data are on microfiche. These miniature reproductions are widely available. It's material that's been used a lot.

There's an interesting little sidelight on physique and performance. I think it's an important observation that you learn from extremes. There are emphatic features that hit you immediately. In the Medford Study, I stumbled on one that appeals to me.

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Roll: In the beginning of the study there was a boy who was in about the eighth grade. He may have begun high school by the time this incident took place. In any case, I had identified his as an interesting physique, also he was an interesting-looking boy. He was a wonderfully developed, dominantly mesomorphic, all-American boy.

I gave a little symposium for the graduate students at the University of Oregon in Eugene. Harrison was there, and the director from Medford was there. I had a slide of this boy, which I put on the screen. I gave his somatotype, which I think was then something like 2-6-3. This was a kid, thirteen or fourteen years old. I said, "Now, there is a born athlete. Anyone could guess that just looking at his somatotype photograph. I said that the somatotype, of course, is appropriate. "Just look at him. He's perfectly balanced. He's obviously going to be more mesomorphic as he grows older. He looks as if he ought to be both the captain of the football team and the class president."

It turned out that's just what he was. He was the son of the director from Medford. [laughter] Harrison swore I really hadn't known who he was. [laughter] Of course he had a rare somatotype, and one typical of a football hero-to-be. Incidentally, he later became an all-American football player at Stanford.

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<sup>30</sup>H. Harrison Clarke, Robert N. Irving. Relation of maturity, structural, and strength measures to the somatotypes of boys 9 through 15 years of age. The Research Quarterly, December, 1961, 449-460 (American Association for Health, Physical Education, and Recreation).

[Interview 5: June 23, 1990]###

Hughes: Can you give me a definition of somatotype?

Roll: Oh, my. Yes, what is somatotype? Good question.

"Somatotype" is a word which Sheldon originated. He put the "to" after the "soma" for euphony's sake. "Soma" and "type" are the essential elements of it. "Soma" being the Greek word for "body," and "type" meaning variety or kind of. It has a rather wide possibility of definitions. Somatotyping is a modified, quantitative method of describing human physique. It assumes that each human physique or human body can be described in terms of three components. Sheldon gave them the names endomorphy, mesomorphy, and ectomorphy. He had fancy definitions for each of the words, with which Lindsay and I disagreed.

From Lindsay's and my point of view, the first component, endomorphy, is really fatness, and it is fatness rated on a scale. The second component in Sheldon's vocabulary was mesomorphy, which is a component that describes muscularity and skeletal characteristics, so it is really the bone and muscle aspect of human physique. The third component is ectomorphy, which is quite simply a way of rating the distribution of the other two components in space so that the lowest ratings go to the people with the shortest bodily segments. They have short legs, short arms, short necks; they are not extended. The high ratings include those who are stretched out to the highest degree, of whom the Nilotic negroes are the extreme example.

Each component originally, in Sheldon's system, was rated on a seven-point scale, so that no component could be more than seven or less than one. Which did not work out. Therefore, by the Heath-Carter definition, the scale is open and theoretically infinite. In actual practice, there are limitations for the ratings you can give any one of them. A flexible scale allows for variations in human physique that may not have been seen before.

Now, do you want a short definition or a long definition of somatotyping?

Hughes: Well, how about both?

Roll: The short definition is simply: a way of describing human physique by using rating scales rather than adjectives.

Lindsay's and my definition retains the Sheldon vocabulary. There is nothing wrong with the Sheldon vocabulary; that is, there's nothing wrong with calling the components endomorphy,

mesomorphy, and ectomorphy. All we have done is redefine them to fit with a more flexible approach to rating each component.

The next step--after modifying the rating scales--is judging the rating in each component. Sheldon referred only to age, height, and weight, which presented some difficulties. When endomorphy and mesomorphy are close together, it's difficult to judge which is higher, because you have no data other than height and weight.

I may have mentioned that Lindsay introduced me to Parnell's method of rating. It was Parnell who discovered the idea of including anthropometry. From my own point of view, the most important anthropometry was skinfolds. With the use of calipers, it is possible to take a pinch of skin which pulls up the subcutaneous fat with it. There are many possible sites for measuring skinfolds. The ones we finally settled upon for our purposes were the triceps, subscapular, which is under the scapula--the shoulder blade--and the suprailiac, which also gets called various other things, but it's a fold roughly over the iliac crest.

We found that the sum of those three skinfolds go from a minimum, which is somewhere around twelve millimeters. Obviously that does not include much subcutaneous fat. The three skinfolds add up to a minimum of approximately twelve millimeters. The maximum sum of the three skinfolds goes on up to monstrous amounts that are well over a hundred millimeters in the very obese. At present, we have laid out the range that we know of and can match it with the apparent range of ratings in endomorphy. A total of ten to fourteen millimeters is rated one in endomorphy. We have made endomorphy ratings as high as fifteen or sixteen, which obviously did not fit on Sheldon's seven-point scale.

Hughes: Why were those three points for skinfold measurement chosen?

Roll: They're arbitrary. They have been used a great deal. When Parnell laid them out, he found they had a good relationship to the components. It would be possible to use other skinfolds. Sometimes they do a median one on part of the abdomen. Some people measure the skinfold on the calf. I find this very awkward because some people have such solid calves that it is difficult to separate the skinfolds from the underlying muscle.

Of course the texture of the fat produces important variations in the measurements. However, Lindsay and I have found that in general these three measurements produce reasonably reliable comparisons with our photoscopic impressions.

Parnell's M.4 method also includes relationships between a series of bone diameters and circumferences for rating mesomorphy. Lindsay uses this system, but I am less interested in it. It is included in the Heath-Carter method.

The height divided by the cube root of weight, which was Sheldon's main index, is closely related to ectomorphy. The height/weight ratio is an anthropological index of considerable antiquity. In other words, the higher the height/weight ratio the higher the ectomorphy rating, and vice versa.

All of these are conventional anthropometry. They just happened to be what Sheldon chose. I think probably they're what Smitty Stephens saw as being reasonable. I don't know that for sure.

Hughes: How old is the skinfold technique?

Roll: I don't really know, but it's pretty old.

Hughes: It goes back to the nineteenth century?

Roll: To be truthful, I don't know how far back skinfolds go. The anthropometry of the body in general followed the classical anthropometry, which is mostly skull measurements--all kinds of indices of relationships in various breadths and circumferences of the head, which I know nothing about.

Hughes: There was the nineteenth-century fad of phrenology.

#### Somatotype and Psychiatric Disorders

Roll: Oh, yes. That was part of it. But somatotyping as Lindsay Carter and I have defined it is both more flexible and more conservative than Sheldon's, because in the back of his head Sheldon was thinking about how to relate somatotype to behavior. I discovered pretty early that that's a dangerous area and gets one into all kinds of trouble. I have stayed away from it. I still think that could be an important area of research, but it requires someone with psychiatric training as well as medical training--which I do not have.

Hughes: So you think that there probably is some correlation?

Roll: I know there is. As a diversion, I have somatotyped people in mental institutions, and I can tell you just about what their

psychiatric diagnosis is by looking at their physiques and watching their behavior. I know there's a relationship. I just think it would be a very foolish for me to attempt research in that area with an idea of publishing my findings.

It's a complicated area of research. I know perfectly well what the possibilities are, and I know what the limitations are. I could describe to anyone who cared to fiddle with it what kind of research and what extensions of somatotype theory are needed to handle it. I think it's very fascinating and very important, but so far as I know no one has made a serious effort in this area.

Sheldon's error and the error of everyone else who has played with somatotyping and behavior has been premature attempts to find correlations. I think that the correlations were beaten to death by applying the wrong kind of statistics.

Hughes: How would you go about establishing a link?

Roll: Actually, Sheldon described a promising approach and then didn't follow up on it. In his book, Varieties of Delinquent Youth, he wrote a chapter called "A Psychiatric Hypothesis." It's a fairly long chapter, the essence of which, as I interpret it, is that there are significant relationships between extreme psychoses and the kinds of somatotypes associated with them. That means that if an individual is going to be psychotic, it should be possible to see a relationship between the physique of the subject and his psychosis.

A person with the same physique as the psychotic subject may only be neurotic. This brings up the question of why some people are psychotic, some are neurotic, and the majority are without psychopathy. That, of course, is a more subtle and elusive problem.

To me the most important point of Sheldon's psychiatric hypothesis was one he did not emphasize for its theoretical--and practical--importance. That is, the deep psychoses are most likely to be found in people of extreme physiques, which are likewise relatively rare physiques.

It is interesting that I found in Sheldon's own tables the suggestion that over eighty percent of adult American men are found in a distribution of twelve of the eighty-odd whole-number somatotypes. Oddly enough, he did not seem to perceive the significance of his own observation--namely that the subjects who have severe psychoses also seem to have rare somatotypes; and that the subjects with mixed psychoses and frequent remissions have mid-range somatotypes.

He pointed out that the majority of patients in mental hospitals are diagnosed with a psychosis, committed to a hospital, and then found improved, and sent home. Then the same patients are again diagnosed with a psychosis--but this time with a different psychosis than for the previous hospitalization. He reported that any one patient might be given three or four different diagnoses at various times.

The significance of the predominance of mid-range somatotypes in the general population, which includes those who are found in mental hospitals, is that, without a dominant component, a mental patient also does not develop a dominant psychosis. For example, a patient with true paranoia is a lean dominant mesomorph with a secondary relatively high ectomorphy and exceptionally low endomorphy--a tough, mean, suspicious subject. The patient with a true schizophrenia is dominantly ectomorphic, with exceptionally low mesomorphy--and may have relatively high endomorphy. The patient with severe manic-depressive psychosis is most likely to have both high mesomorphy and high endomorphy, with exceptionally low ectomorphy.

Hughes: Why should there be any relationship between behavior and physique?

Roll: The why is extremely difficult to defend. One is forced to retreat to adjectival reasons, which is dangerous because it is difficult to defend adjectival descriptions without quantitative measures to back them up.

Hughes: Is that why you became skeptical of the relationship?

Roll: That's why I avoid it. Actually I'm not skeptical of it. I just know that I can't defend my impression.

Incidentally, I have made an observation that seems to apply to many people who are both endomorphic and mesomorphic and low in ectomorphy. They are well upholstered, have lots of energy, and have a tendency to be not very well inhibited. I think it was Raymond Pearl who called these people "feebly inhibited." It's a wonderful expression.

I'm thinking about people who have colorful temperaments. For example, Margaret [Mead] was feebly inhibited. She spoke before she thought. I remember one morning at the Congress of Anthropology in Moscow, when I was sitting at breakfast with Earl Count, Margaret came by the table and said to Earl, "I had a dream last night and I know now what the answer to your argument was." I said, "What was that all about?" He said, "Oh, you know Margaret. She speaks before she thinks, says something

indefensible, and comes back all apologies the next morning." There are many people like that, as you have no doubt observed yourself. Now, some of them are benign, some of them are a pain in the neck. And I can't account for that.

Winston Churchill had a lot of the quality I'm talking about --plenty of energy, and not a lot of inhibition. But he was brilliant. Of course Churchill eloquently illustrated that physique and behavior are not really related to intelligence. But there is a relationship when it comes to self-discipline and inhibition.

Sheldon's most brilliant concept was that the cycloid psychoses go all the way around the clock. He said that the manic psychoses may go from manic to depressive and back to manic again, in cycles; or they may go from manic to paranoid and back, in cycles.

Incidentally, Sheldon had a theory that the true, lean paranoids are the dangerous ones, that they are rarely seen in mental hospitals, and that they are found instead in prisons, because they are the murderers. (Although not all murderers are paranoid.) The problem is that Sheldon's intuition ran miles ahead of his documentation. Somebody has to go to the prisons and do a really top job of identifying the psychotically paranoid. I think they're there, all right. I've been told by prison authorities that there are people who have otherwise seemed perfectly normal who have been known to say, "I'm going to kill that guy some day,"--and they do so twenty-five years later. Well, that's my idea of true paranoia.

There are also lean, relatively muscular people up at the top of the distribution who are also quite ectomorphic. Four or 4.5 in ectomorphy. They sometimes are cycloid from paranoid to schizophrenic, and sometimes you hear them called "paranoid schizzies." I think it's true that they are schizoid for a while and then they go back to being paranoid. If their psychosis is well balanced, they may go back and forth. And that means they go through periods when they're very dangerous.

Then, down at the bottom of the distribution triangle are the people very low in mesomorphy, high in ectomorphy, with a considerable amount of endomorphy. They are cycloid from depressed to schizophrenic. The extreme ones are the hebephrenic schizophrenes. They are catatonic and just go stand in a corner. They die young. They just shrivel up.

I think that if someone were willing to test this map of psychosis--actually all psychiatric behavior, including borderline

normal, neurotic and psychotic--Sheldon's psychiatric hypothesis might be found useful. It would be fascinating to see if the behavior of the relatively extreme somatotypes goes all the way around the triangle, with cycloid swings between poles. Of course I would rather expect to find a similar cycloid phenomenon as one moves toward the universal center of the somatotype distribution where the majority of people are found.

I think there are remarkable possibilities in this kind of notion. Of course, I started out, after all, with a great deal of my interest centered in psychiatry. After all, I spent fourteen years working in a psychiatric clinic one day a week. So I knew a little bit about the continuum from normal behavior to psychosis.

Hughes: It seems to me that Sheldon and his followers were not only bucking lack of hard scientific data but also an inimical climate of opinion. The tendency, as I understand it, in anthropology and many of the social sciences has been away from determinism to a more environmental approach. Don't you think that general context was a hurdle for the Sheldons of the world?

Roll: I think it has interfered with good, solid research. I think that there is a swing back toward genetic origins of mental disease, of the biochemical and neurological innate, inborn characteristics that lead to psychiatric problems. I suspect that like most things, you should look for a middle course. I suppose that some people manage to weasel their way through life outside of commitment to a hospital. Virginia Woolf, I think, is probably the perfect example. Leonard says, in his autobiography, that she was psychotic. She herself wrote about "going mad." But Leonard pulled her through each time--until the last one. He was willing to put up with her periodic episodes.

Hughes: Also I think there's a tolerance for writers, particularly in a social group like the Woolfs' where Virginia certainly was not the only extreme personality.

Roll: And she was gifted.

Hughes: Exactly. So you make excuses.

Roll: Precisely. I suspect that my brother Parker was a force that tended to edge his wife into psychosis. I don't know what it would have taken to keep her out of a mental hospital. I do know that I found her almost impossible to spend much time with. She was brilliant, but unfocussed, and there was nobody around to guide her into something useful. She certainly had a mixed psychosis. She was both schizophrenic and paranoid.



Hughes: Is there anybody on the scene now who is interested in investigating physique and behavior?

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Roll: No. Not that I know of. But periodically I meet someone who expresses an interest in the possibility of doing behavioral research along with somatotype. I think that it's one of the most promising possibilities. Whoever works on this kind of a project should look for the people with extreme physiques who also are in mental hospitals. Then they should find some people who have the same physiques but no behavior problems. And there are lots of people like that.

### Dysplasia

Roll: Then there is dysplasia. I suspect, but cannot prove, that if a careful study is made of dysplasia, that we'd find that the dysplasias probably can at least give broad hints that might account for behavioral as well as physical idiosyncrasies. Dysplasias account for both physical abilities and disabilities. The absence or presence of dysplasia is closely related to all kinds of physical performance, dexterity and grace among others.

A dysplasia is a disharmony among the different parts of the body. For example, a common dysplasia in women is narrow shoulders and broad hips. In its extreme form you see women who are flat-chested, narrow-shouldered, and suddenly spread out at the hips. A pear-shaped physique. A common dysplasia in men is a very powerful mesomorphic torso and long, spindly legs. Dysplasias are almost certainly genetically determined.

I would like to believe that attention to dysplasias could be at least minimally useful in genetic research. I have a notion that it would be helpful to encourage anyone who is engaged in biological research of any kind to observe as carefully as possible the external variations of our species.

I had an experience with gross somatotype plus dysplasia that illustrated for me the cogency of one of Sheldon's observations. He said that schizophrenia was obvious to anyone posing a subject for a somatotype photograph. He said that people who are schizophrenic frequently have dysplasias in the arms; that the arms are weaker than the rest of the body; that the weakness becomes conspicuous when one poses a schizophrenic subject. Taking a somatotype photograph requires posing the subject in a

standardized pose, and one very important aspect of it is asking the subject to extend his/her arms and to hold the elbow straight. People who are schizophrenic cannot hold their arms straight. They immediately let go. The arms hang loose and bend at the elbow.

Hughes: Is there an explanation of why schizophrenics can't hold their arms rigid?

Roll: It's partly muscle.

Hughes: So there's a physical reason.

Roll: There's a physical reason as well. What I don't know is how much else may be visible physically. I have no doubt that it's going to take a couple of generations to observe, to ask the right questions, to look for exceptions in other similar physiques. It's very complicated. It implies the kind of dedication that very few people have.

It also implies an enormous empathy for the predicaments of behavior. And that, I think, is one of our problems. We already know a little. We know that if the total environment has produced extremely delinquent behavior, especially among young males (I don't know about females) they are going to be dominantly mesomorphic.

Hughes: Is that an accepted observation?

Roll: It's an observation that has been recorded a good deal. Not only Sheldon's book on delinquency showed that, but also some people named Glueck, who did a couple of studies on delinquency, found the same thing.<sup>31</sup>

Hughes: What is the response of the anthropological world to this kind of correlation?

Roll: They say, "Oh, very interesting." So far no one seems to have the kind of bulldog interest in that line of research that I've had in improving the method. It takes a particular kind of persistence that few people have. It also requires the patience not to rush to judgment.

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<sup>31</sup>S. Glueck and E. Glueck. Unravelling Juvenile Delinquency. Cambridge: Harvard University Press, 1950; S. Glueck and E. Glueck. Toward a Typology of Juvenile Offenders. New York: Grune and Stratton, 1970.

Hughes: Well, I think it not only takes a bulldog temperament in terms of doing the work, but also in bucking the fact that this is not a popular field to be in.

Roll: It's both.

Hughes: After all, these studies require money.

Roll: They require not only the money, but the kind of a mind that wants to look at the whole span: from the best possible kind of behavior and what kind of physiques go with it to the worst possible. And the worst possible from the psychiatric point of view, the worst possible from the social point of view, as in delinquency. My goodness! This is getting us into complicated problems.

Hughes: You say you believe there is a correlation between physique and mental problems. What, then, could be done about it? What might be a practical approach?

Roll: I should think it might be valuable to be able to anticipate the nature of the problem. I can imagine that it could be helpful to schoolteachers. It should be helpful to parents. If you're a parent and you have a kid who has a behavior problem of dimensions you can't cope with, it might be a help to one's peace of mind, and might even lead to more tolerant treatment of the child. Perhaps one could anticipate some of the dimensions of the problem.

It seems to me that part of the value of knowing how to diagnose, how to describe, how to deal with the problem, would be to consider the possibility that there is a genetic aspect to it; to consider the possibility that it's not all environmental. It seems to me that parents of delinquent children suffer a lot from guilt. They think they've done something wrong. Probably they didn't do very much that was wrong. But they did inadvertently hand down some genes that didn't work out very well. It may have been generations back. There does seem to be some acceptance of the possibility of genetic characters that come out.

### The Heath-Carter Method

Hughes: Let's go to the evolution of the Heath-Carter method. I was wondering if you could distinguish between what you published in 1963 without Lindsay, and what became the Heath-Carter method that

evolved in 1967.<sup>32</sup> In other words, what had you done on your own before you met Lindsay, and what happened after you became a team?

Roll: I had dealt with everything except anthropometry. That was the only thing left.

Hughes: Was that Lindsay's contribution?

Roll: That was Lindsay's. Lindsay said, "What do you think of what Parnell did?" I had to confess I didn't know anything about what Parnell did. I knew that Tanner had done all of the anthropometry, but he never used it. It frustrated me.

Hughes: Why didn't he use it?

Roll: Because he wanted to be orthodox Sheldon.

Hughes: Why did he take the measurements?

Roll: I really don't remember in detail how he used the anthropometry in, for example, his study of the athletes at the Rome Olympics. I only know that he did not use the measurements as criteria for arriving at component ratings.

Parnell did. The thing that Parnell did not do was to throw out the various corrections, particularly corrections for age. In effect Parnell went along with Sheldon's idea: "This is the somatotype that this subject was at age eighteen, when at thirty he weighs a lot more, and his skinfolds add up to a larger total than at eighteen, he's still the same somatotype. He's just changed." Which is obviously nonsense.

Lindsay and I simply added the anthropometric measurements to the criteria for component ratings. I had already thrown age out. So it was just a matter of adapting the anthropometry to my modifications.

Hughes: Why don't you summarize what you had done before you met Lindsay?

Roll: Oh, all right. First, when I rated Tanner's series of Olympic athletes and the Papua New Guinea males from Pere Village I

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<sup>32</sup>Barbara H. Heath. Need for modification of somatotype methodology. American Journal of Physical Anthropology 1963, 21:227-33; Barbara H. Heath and J.E. Lindsay Carter. A comparison of somatotype methods. American Journal of Physical Anthropology 1966, 24:87-99; Barbara H. Heath and J.E. Lindsay Carter. A methodical somatotype method. American Journal of Physical Anthropology 1967, 27:57-74.

realized that many of them were more mesomorphic than any 7 in mesomorphy I had ever seen. I realized that if I was confined to the seven-point scale I would have to re-rate every subject ever photographed to fit the Olympic athletes and the Papua New Guinea males within the seven-point scale. Obviously that was impractical. The solution was an open scale that would permit me to give ratings of 7.5, 8.0, 8.5 or however high we needed to go.

Next I realized that there were inconsistencies in Sheldon's distribution of somatotypes according to height/weight ratios. I discovered that some somatotypes fitted perfectly with the height/weight ratios Sheldon assigned them to. For example, 4-4-2 had a ratio of 12.80, 4-4-3 had a ratio of 13.00, and 4-4-4 had a ratio of 13.20. Eventually, I identified twelve whole-number somatotypes that seemed to fit perfectly with the height/weight ratios Sheldon's table showed.

Then it dawned on me that there are intervals of 0.20 between 12.80, 13.0 and 13.20; and between ratios of other pairs of the twelve somatotypes I believed were correctly placed on Sheldon's table. I discovered that there was a difference of one rating unit in one component in this series--in this case, ectomorphy increased by one unit for each increase of 0.20 in the height/weight ratio.

So, I experimented with constructing a table on which there is a linear relationship between height/weight ratios and somatotype ratings. First, I made up a skeleton table of the twelve somatotypes placed with the height/weight ratios Sheldon had indicated. Then I entered the somatotypes so that the one-unit changes in component ratings were consistent with my base of twelve ratings. For example, if 4-4-4 has a ratio of 13.20, 3-4-4 has a ratio of 13.40, then 3-4-5 has a ratio of 13.60. If 4-4-2 has a ratio of 12.80, then 4-4-1 has a ratio of 12.60. I also filled in the other somatotypes for each height/weight ratio. For example, applying the same reasoning, I identified 3-4-3, 2-5-3, and 3-5-4 with 13.20, along with 4-4-4.

I don't think you, or anyone else, really wants to know how each step was taken in constructing the table of somatotypes and height/weight ratios. It probably is a good idea to mention that of course this table does not represent direct measurements. The only measurements that are related to it are height and weight. The ratio derived from height divided by the cube root of weight became one of the standard ratios used in manipulating anthropometric measurements. It simply makes sense that the taller and skinnier a subject is the higher his/her height/weight ratio; and the stockier and heavier a subject is the lower his/her height/weight ratio. It is not a very large jump from there to

the obvious relationship between high ectomorphy with low endomorphy and mesomorphy to high height/weight ratios; and conversely the relationship between high endomorphy and mesomorphy with low ectomorphy to low height/weight ratios.

Incidentally, the open scale is reflected in the introduction of the somatotypes with ratings higher than 7. The height/weight ratio for 1-7-1 is 12.60. It turned out that the height/weight ratios for 1-8-1 and 2-8-1, for example, are 12.40 and 12.20. The somatotypes with extremely high ratings in endomorphy had height/weight ratios like 9.50 and 9.00. These were found in a series of obese women. The somatotypes with extremely high ratings in ectomorphy had height/weight ratios like 15.00 and 15.20. These were the Nilotes of Sudan.

Mind you, so far I had reorganized the Sheldon table for ages eighteen to twenty. He had constructed ten tables corrected for age, from eighteen to sixty-five. You can imagine how clumsy it was to hunt for the appropriate somatotype at the appropriate age on a sheaf of mimeographed tables. The Atlas of Men, with the tables between hard covers, was not published until after I had left the project.

After I had constructed a table of somatotypes based on open rating scales, I eliminated corrections for age. I used one table for all ages and both sexes. This modification, of course, introduced the proposal that somatotypes do indeed change.

Sheldon also ruled that the sum of the component ratings should add up to totals of nine to twelve. He later amended that to nine to 12.5. Of course, my open scale automatically threw out that restriction.

In short, when Lindsay and I started our collaboration I had devised a somatotype method with open scales that had equal-appearing intervals, with no corrections for age, with a distribution of somatotype ratings and height/weight ratios linearly related to one another, and no restrictions on the sums of the three component ratings in somatotype ratings. Of course, my method also eliminated asking a subject how much he/she weighed and how tall he/she was at age eighteen.

Hughes: Why did Sheldon change the totals for the component ratings to 12.5? Because he had data that didn't fit?

Roll: Well, because in practice it was a seven-point scale but we actually could rate the half-intervals between, so it became a thirteen-point scale.

Hughes: How significant is it that the groups that Sheldon was working with, and the groups that you and others were working with, were very different? Sheldon, as I understand, was working mainly with American men.

Roll: Yes.

Hughes: Other people, including you, were working with many different ethnic groups.

Roll: I was after I left Sheldon. I think that Sheldon should be exonerated to some extent in that he was not really familiar with the somatotypes of women, children, and large samples of non-Caucasians. He had done a few--not very many. Until I came along, there weren't great numbers of women's somatotypes. He never actually participated in studies outside of the country, so he didn't know anything about ethnic somatotypes. Occasionally someone brought in a few pictures of Japanese or some such, but he didn't really know much about worldwide variation.

He never directly participated in studies of children, so he really didn't know anything about children's somatotypes. That's why it was silly of Tanner to be so orthodox. Tanner's most important studies were of children. Incidentally, we still have to come to grips with somatotyping children. This area is by no means totally worked out. We have a long way to go.

Hughes: What are the special problems?

Roll: Well, because they are so obviously plastic. If you get them young enough, it's impossible to predict what their adult somatotypes will be. If one follows the rules of Heath-Carter somatotyping, the ratings can be very strange. For example, 2-2-3 is not an unusual somatotype for a child.

Fitting children's somatotypes into the table of ratios to somatotype produces some rather odd ratings. Lindsay has worked out some promising techniques for correcting for various measurements in children. The distributions are meaningful but they're not quite what they should be. Again, I think that we should be able to recognize dysplasias earlier on. Dysplasia is a big, unexplored field.

Hughes: Do you think that Sheldon would have clung to his concept of the permanence of the somatotype if he had worked with children?

Roll: Oh, sure. He would have predicted what they were going to be at eighteen. That's what he did all the time. The two of us really came a cropper over the somatotyping of children.

I think I told you about our somatotyping the Institute of Child Health series in Berkeley. It seems to me the youngest were only ten, which isn't very young. But it was obvious to me that they were changing and that we should do something about accounting for the changes somatotypically. I recognized what they were, and I could rate them year by year. Sheldon said no, that what they were at the end of the study was what they were from the beginning. I said, "I don't agree with you." It was the first time I'd ever contradicted him more or less publicly. Later I did the whole series all over again and showed how they changed. They also changed radically in ways that would not be readily predictable after the study was finished. The institute reached 60 percent of them and rephotographed and remeasured them at age thirty. The results were fascinating.

But to get back to my modifications: I had done everything except to validate what I had suggested and come to grips with what the anthropometry added to it. Lindsay and I then set about taking large series of somatotype photographs and validating the open scale and the distribution of somatotypes and ratios of height to cube root of weight. We modified Parnell's scale of skinfolds and other measurements, too, to set limits on the measurements expected with component ratings. It was a relatively straightforward exercise.

Essentially, our somatotype book is a record of how we did the modifications, and how the modifications have been applied in large numbers of cases.

Hughes: Did Sheldon ever react publicly either to your changes in 1963 or to the Heath-Carter method?

Roll: No. He reacted obliquely. In the 1960s, and I'm not sure who talked him into it, he adopted a system that he called the trunk index somatotype method.<sup>33</sup> I still can't believe he could do this. The system used what is called planimetry. On a photograph, mind you. As I told you, if photographs are not printed on non-stretch paper, the measurements are going to be off. Planimetry involved marking sites like the iliac crest on the photograph.

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Hughes: Barbara, could you put in a nutshell what the Heath-Carter method allows one to do that previous methods didn't?

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<sup>33</sup>William H. Sheldon. The New York study of physical constitution and psychotic pattern. Journal of the History of Behavioral Sciences 1971, 7:115-26.



Roll: Well, aside from opening the scale up and getting rid of the corrections for age and readjusting the relationships between height divided by cube root of weight and the somatotype rating, we added the interpretation of the components in the light of anthropometric measurements. From my own personal point of view, the most important aspect was adding the sum of the skinfolds. All of the anthropometry can be so interpreted that it is possible to obtain a reliable somatotype rating from anthropometry without a somatotype photograph. It is exceedingly valuable to have a photograph, and I think that potentially, if you want to really learn much about any given individual, you need a somatotype photograph as well as measurements. But for the purpose of a survey of a sample of a population, the anthropometry is sufficient. Lindsay and I validated that well enough so that the results can be regarded as reliable.

Anthropometry alone is really not enough in studies of children. You need photographs as well. The question of photographs is a little touchy for a number of reasons. The first one being that people don't like to take their clothes off and have their photographs taken, despite the fact that they go around the beaches with practically no clothes on. Photography entails an added expense. It is tedious with respect to time. It's a lot easier to just measure people and not have to herd them into a place that has a photographic setup and get them undressed and re-dressed and so on.

So there are reasons why somatotype photographs are not feasible in some research settings. Sheldon made such a fuss about the importance of the photographs that he shut a lot of people out of somatotype research.

Hughes: And that's exclusively what he used, is it not?

Roll: He didn't think there was such a thing as a somatotype rating without a photograph. Not only that, but the photograph had to be thoroughly standardized. Sheldon wouldn't countenance a photograph with jock straps on, for example, or bikinis. Which actually does not prevent one from rating a somatotype photograph, provided it's otherwise standardized, and provided the measurements are reliable. Not only did Sheldon's lack of really reliable data get in his way, but also his being so dogmatic and rigid about photographs also got in his way.

Hughes: Was he aware that anthropology required validation of data?

Roll: Oh, sure.

Hughes: So it was a conscious decision not to follow the rules?

Roll: Oh, it was a conscious decision all right.

Hughes: Do you know what his reasons were?

Roll: They were all unreasonable. This is a typical Sheldonism: A biostatistician suggested some statistical procedure, and he said, "Oh, that's just academic bullshit." In other words he was a perverse man. A large part of his behavior was perverse. Somatotype, after Sheldon got his first waves of attention and approval, always needed a colossal dose of good public relations. He could destroy a whole campaign in about ten minutes.

I should add that Lindsay and I invested a good deal of tact as well as persistence and patience in our enterprise. As a result a good many people are interested in somatotyping by the Heath-Carter method.

#### Collaboration with Lindsay Carter

Hughes: That makes a nice lead into the story of how you met Lindsay and what happened thereafter.

Roll: When I went to Russia the first time, 1963, I received a letter from a man named J. E. Lindsay Carter in the mail that was forwarded to me in Moscow. It was a short letter that said, "I have just read your piece in the Journal of Physical Anthropology called "Need for modification of somatotype." I am very much interested in this. I wonder if you could give me some data about women. I have been a graduate student at the University of Iowa, where I worked with C. H. McCloy and Frank Sills."

He wrote from New Zealand. He had finished his Ph.D. in Iowa and had gone back to the University of Otago, his alma mater, in New Zealand, where he was teaching, and he wanted to do some more somatotype research. I didn't answer the letter because it didn't seem convenient from Moscow, but when I got home, I acknowledged the letter. I said that Dr. James Tanner in London had a lot more data than I did, since I had gotten most of my data on women from him, and why didn't he write to him? I assumed that was the end of that. I didn't know who Lindsay Carter was, and I received letters like his every so often.

Eventually he wrote again, and said he didn't get much out of Dr. Tanner; that he would like to meet me sometime; and couldn't we talk about all this? So I wrote to him in New Zealand and said that was fine; I'd be glad to talk to him. By then, he had a job

at San Diego State, which was then San Diego State College. Meanwhile my letter was forwarded by surface from New Zealand to San Diego. That we ever got together is a miracle. Well, in due time he received my letter. The next thing was a letter saying he was now in San Diego and that he was coming to a physical education meeting in Monterey. Would I like to come to the meetings, and could we have a talk?

So I went and attended some of the sessions. After one of the sessions, Lindsay and I met and sat down and started talking. It became obvious to both of us within a half hour that we both had the same general attitudes about somatotype and about what was wrong with Sheldon and the Sheldon method of somatotyping. So we decided to put our data together, with the idea of writing a paper together. Rather early in our acquaintance he wrote to me and asked if I was familiar with the work of Parnell. I had to admit I had not seen Parnell's work. I got Parnell's book, and realized that he had made an important contribution--that he had, in fact, made good use of the same anthropometry that Tanner had used.

In any case, Lindsay and I decided to write an article on modification of the Sheldon method. In other words, we made plans to take the problem from what I had said that it needed, to applying my suggestions. I no longer remember the details of what we did. We went through a lot of mathematical and statistical manipulation, and satisfied ourselves by various statistical tests that what we had done was valid. Of course the big objection to Sheldon was that he never validated anything. "Validate" is a magic word.

From time to time I went down to San Diego State where Lindsay and I had little private symposia. I also met his departmental colleagues, who were interested in somatotype research. After it went from one thing to the other, we decided that we were ready to write the article on what we had modified.

When Lindsay and I started writing together I had two publications: In 1961 the American Journal of Physical Anthropology published the article on the physiques of Hawaii-born Japanese students. My co-authors were Carl Hopkins and Carey Miller, who had done the study. In 1963 the AJPA published my solo article, the "Need for Modification of Somatotype

Methodology."<sup>34</sup> So the timing was good when Lindsay entered the picture in 1965.

Nancy Bayley, Carey Miller, and Carl Hopkins

Roll: As we review the separate pieces of my adventures with somatotyping I am wondering whether I have remembered some of the time sequences accurately. For example, mention of the University of Hawaii study of Japanese students and Carey Miller reminds me of Nancy Bayley, who played a crucial role in my continuing with somatotype research as a free-lance expert not sheltered by an academic umbrella.

I don't remember how I happened to know that Nancy Bayley was at the University of California in Berkeley when Scott and I came to Carmel. Nancy Bayley was well-known for her studies of growth, particularly her predictions of adult stature in infancy and early childhood. Early in her career she had been associated with [Louis M.] Terman of IQ fame and his study of gifted children at Stanford. She also had some early relationship to the growth study in Berkeley. By the time I knew her she was well-known for her research and for her many publications.

Soon after Scott and I were settled in Carmel I arranged to go to Berkeley to talk to Nancy Bayley, who was at the university at that time. She was an exceptionally generous and friendly person. She gave me the impression of being sympathetic to and approving of my interest in somatotyping and my intention to modify Sheldon's methods. She put me in touch with Harold Jones at the Institute of Child Welfare, which led to a fascinating and important re-evaluation of the photographs and data of the growth study at the institute.

A little later Nancy Bayley put me in touch with Carey Miller, who was a professor of nutrition at the University of Hawaii. Carey Miller had done a study of a hundred male students and a hundred female students of Japanese ancestry but born in Hawaii. They were students at the University of Hawaii. She did

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<sup>34</sup>Barbara H. Heath, Carl F. Hopkins, and Carey D. Miller. Physiques of Hawaii-born young men and women of Japanese ancestry, compared with college men and women of the United States and England. American Journal of Physical Anthropology 1961, 19:173-84; Barbara H. Heath. Need for modification of somatotype methodology. American Journal of Physical Anthropology 1963, 21:227-33.

somatotype photographs of them. Now, how she got interested in that, I don't know. She did measurements--a lot of measurements--of their parents. She found out where they came from and where they were born in Japan. It was a well-done collection of data.

I can't remember how Carl Hopkins got in the act. I do know that Carl and I kept in touch after I left the medical school in Portland. In any case, Carl and I had discussed the pros and cons of somatotype method at such length that it seemed logical for him to contribute his biostatistical skills to the problems of this study. So we collaborated more or less at long distance, included Carey Miller as co-author, and submitted the article to the American Journal of Physical Anthropology. As it turned out, it was my first publication.

All of this reminds me of the long journey to the publication of the piece on the need for modification of somatotype method that was published in 1963. Bill Laughlin was the editor of the American Journal of Physical Anthropology at that time. I talked to him at length about writing the theoretical article. He thought it was worth publishing.

I don't remember when I started talking about publishing such an article--probably shortly after I came to Carmel, after having outlined the whole idea in my proposed dissertation at New York University. The big hurdle was peer review at the Journal of Physical Anthropology. Somatotyping was not a popular subject, and Bill Laughlin had little success in persuading his peers that it was worthwhile.

Finally, I said to Bill, "You have a section called 'Brief Communications' in the journal. Why don't I just boil this piece down to that size?" He said, "Why not? Furthermore, do that and I will put it in without review," which he did. So that was the way my first solo theoretical paper got published.

Hughes: Now, this is the Hawaiian paper?

Roll: No, the Hawaiian one got by because of Carl and Carey Miller. The journal accepted her. She did a solo paper on her own, on stature and nutrition of the same series. I was talking about my paper on the need for modification of somatotype method.

I guess this discussion started with how I met Lindsay, and how our collaboration began. Actually, once we started writing we just continued until we finally finished the book Cambridge University Press published--Somatotyping: Development and Applications, a 500-page opus.

Fred Hulse was editor of the journal by the time Lindsay and I started writing together. He was interested in somatotyping, and was a good friend of mine. Lindsay's and my papers obviously formed a logical sequence from statement of need for modification, followed by a description of how the modifications were performed, and then by a description of the modified method. I found out years later that a number of anthropologists in other parts of the world had been using those three articles as instructions in conducting their research projects.

Sometime after 1970 Lindsay and I decided that there should be a book on somatotype. Quite a while ago. When we started putting things together we discovered that it takes a little time to create a book. By 1975 when I went to Philadelphia to be with Fred, Lindsay and I were seriously getting material together for a book. We had an outline and an idea of what the chapters would be for a very long time. We decided that we would not cross the publication bridge until we had a completed manuscript. We knew that if we found a publisher, we would soon find ourselves in a deadline hassle. Obviously that would be awkward.

As matters turned out, we became very good friends and we worked together whenever we could. I used to go down to San Diego two or three times a year, and Lindsay came up here whenever he could. Each time we spent two or three days burrowing away on the enormous accumulation of material we had.

Hughes: Had Lindsay done any somatotyping before that first meeting with you?

Roll: Yes, but not much. He had done two series: one at the University of Iowa and some series at the University of Otago.

Hughes: Using basically Sheldon's method?

Roll: Basically using the Sheldon method. He was unhappy with the Sheldon method. However, he had discovered Parnell. And Parnell made a lot of sense. Also, in New Zealand, his mentor at the University of Otago was a man named Philip Smithells. It's a nice variant on Smith, isn't it? Philip Smithells had been in this country at some meetings, I suppose, and found his way to New York and Sheldon's lab when I was there. So I had met Smithells, and he knew about me. He may have been the one that suggested writing to me; I don't know. Anyway, there was that connection. He was interested in somatotype.

Lindsay's professors and advisor at the University of Iowa were people who knew about somatotype. As I mentioned, one of them was a medical doctor, Frank Sills. I had met him and a man

named C. H. McCloy, who was a very well-known research physical educator. He went about halfway with Sheldon. He could always think of a lot of things that were wrong with somatotype, but he thought it was pretty interesting stuff. So Lindsay had a good deal of background. At this time, Sheldon hadn't been written off entirely. His work was considered interesting.

Hughes: Did it make any difference in any way that Lindsay is an exercise physiologist rather than a physical anthropologist?

Roll: Make a difference in what way?

Hughes: Any way you care to look at it.

Roll: The physical educators have been among the most important friends of somatotype right from the beginning. The whole concept of a somatotype photograph was based on the physical educator's posture pictures. So there was a close relationship. Sheldon himself was always very friendly to the physical educators, and talked about how cooperative and helpful they were. When I went out to photograph the college women, Sheldon had made the arrangements through the departments of physical education. So the Carter connection seemed a natural.

A lot of people don't realize that physical education departments are quite sharply divided between the coaches and the academic physical educators, most of whom are very good research people. Very good. They are among the nicest people I've ever worked with in any context. For one thing, they are not quarrelsome. They're marvelous. I love them. The people in Lindsay's department at San Diego are delightful.

Hughes: Could you talk both in an academic and personal way about why the collaboration with Lindsay worked?

Roll: It worked professionally because I realized immediately that he was a completely straightforward, honest research person. I knew from everything he said that he would never bend data. He was willing to treat a hypothesis as a hypothesis is supposed to be treated: that you have an idea that sounds pretty good and then you test it. You don't have a hypothesis and then prove that it's true no matter what.

I was very determined that I was going to avoid, no matter what, the trap that Sheldon had set, which was to establish a closed system, which made it impossible to modify anything without destroying the whole thing. I knew that the most important thing I could think of was to leave room for modifications, even in one's own material. Lindsay agreed with me on that, which was

very important. I said, "Look, we will do this, and I know it will work provided that you never try to invent a closed system. I am never going to get into that trap again."

Hughes: And he agreed?

Roll: And he agreed. Perfectly.

#### More on Somatotype

Hughes: I'd like to quote from Lindsay's article, "Barbara Honeyman Heath Roll and the quest for a taxonomy of human physique." "According to Hunt," whoever Hunt is, "in 1981, Sheldon's somatotype method was the last in a long line of constitutional typologies."<sup>35</sup> If I'm understanding that correctly, he excluded Heath-Carter from the line of constitutional typologies. Am I right?

Roll: Yes, I guess so. I hadn't thought about it in that context. Sheldon said that somatotyping was not a typology, that somatotyping was a description. That a somatotype is used to describe continuous variation. In other words, that no two physiques are really alike. This one is more like this one over here than it is like that one over there. But the variation is continuous. He denied that that was a typology. Sheldon said that the other systems of constitutional description were typologies. In other words, they described "types of". There were pyknics and there were athletics and there were leptosomes and so on, à la Kretschmer. So I guess that what Lindsay was getting at was that what I was doing was not a typology. But then Sheldon didn't think what he was doing was a typology either.

Ed Hunt was an anthropologist who was one of Hooton's graduate students. He is now a professor at Pennsylvania State University.<sup>36</sup> I know Ed Hunt very well. He's a very able writer, and he was interested in somatotype because Hooton was interested in somatotype. Ed wrote several very critical articles about Sheldon's somatotyping, so the quotation is apropos of his critique.

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<sup>35</sup>J.E. Lindsay Carter. Barbara Honeyman Heath Roll and the quest for a taxonomy. Unpublished draft on talk for International Congress of Anthropological and Ethnological Sciences, 1983.

<sup>36</sup>Hunt died in 1992.



Hughes: I guess what was confusing me is I would think that Heath-Carter or any of these somatotype methods have the goal of leading to a constitutional typology.

Roll: No, not a typology. I'm trying to think of whether there's a word that takes the place of "typology."

What we're getting at is that Heath-Carter introduces quantification, which typologies don't. Typologies describe adjectivally.

Hughes: Á la Kretschmer.

Roll: Á la Kretschmer. A physique is an "either-or," or "mixed," which does not include quantification.

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Roll: And the other important point: In somatotyping the quantities are ratings, not weights or lengths or other kinds of objective measurements. Ratings are quite a different matter from the number of millimeters in a skinfold.

The measurements are related to ratings. You know how the phrase, "On a scale of one to ten, how would you rate--?" The important point is that ratings involve quantification rather than description. The three ratings that are given together to describe a somatotype evoke adjectival images in your head.

For example, I tell you that Fred is a 3-4-5, and let's say that Trevor is a 4-6-2. Once you understand anything at all about somatotype, you immediately have a visual image of the distinction between the two. It is a quantitative description which is much sharper than any adjectives I could use. I could spend five minutes on each of them, telling you what kind of a physique each has; once you understand what a somatotype is and how one arrives at it, the numerical distinction immediately tells you the two physiques are dramatically different.

However, it is important to remember that the somatotype itself is a gross general description that does not tell you that Fred is six-foot-one and Trevor about five-foot-ten. I should be able to refine my description with an account of dysplasias, such as mesomorphic trunk and ectomorphic legs, or the reverse. You might like to know whether I am talking about a man with blue, hazel or brown eyes, with wavy or straight hair, or almost none. The point is, that to identify the somatotype is merely to take the first step in describing an individual.

Bill Ross, one of the great enthusiasts for somatotype, a Canadian and a professor at Simon Fraser University, likes to refer to somatotype as a "biological name tag." I think that is a good definition. The somatotype gives you an immediate notion of the kind of a physique you're talking about. I think a photograph is also essential. A photograph tells you more about what kind of a 3-4-5 this is. Is he a six-foot-one or a five-foot-six one?

### More on Dysplasia

Roll: I would like to go back to dysplasias for a moment. When I was talking about dysplasia, I was talking about people who have dysplasias. However, there's another very important aspect of the dysplasia subject, which has not been worked out and written about. And I would be willing to be quoted on this.

There are some nondysplastic physiques, physiques with no dysplasias, that I think are ideally suited for certain kinds of activities. For example, there are several old tennis players that Fred and I have talked to, who have remarkably similar physiques. The nearest somatotype for them is something close to 2-5-2. They are lean; they have a nice muscularity. They are of moderate height, which is not á propos, really--that just happens to be the case. They are perfectly balanced. Nothing is out of harmony. They move as a piece. Everything they've ever done fits the pattern.

One of them was a Pan Am pilot, a typical 2-5-2. You just know he would do that well. Everything he does is precise. He happens to be an electronic nut, and his whole yard and house is an exhibition of electronic ingenuity.

People of great grace are almost certain to be nondysplastic. They're perfectly balanced in physique. In that sense, they are born very fortunate. I don't know what two somatotypes produced the 2-5-2s I have observed. It may be that neither of the parents was nondysplastic. It may have been simply a happy blend. We don't know these things. Maybe we should know. Maybe this is the kind of thing that we can know as genetics reveals more and more, and we learn more about health and longevity. Incidentally, I feel sure there are internal dysplasias of some sort as well.

When Dupertuis was at Columbia Medical Center, he persuaded a radiologist to do chest and spine X-rays of subjects whose somatotype photographs he had. Several interesting things turned up. One was that the dominantly endomorphic subjects had roundish

hearts. The dominantly mesomorphic subjects had oblong, squared-off hearts. The dominantly ectomorphic subjects had carrot-shaped hearts. A very interesting finding.

Several years ago when I had a chest X-ray the radiologist said, "You have a carrot-shaped heart." I looked at it and could see it is relatively elongated. And my chest is more ectomorphic than most of the rest of me.

That, of course, is a kind of dysplasia. If my heart is more carrot-shaped than otherwise, I have a dysplasia of heart shape. Actually, I have several dysplasias. I am much more mesomorphic from the waist down than from the waist up. My feet are very ectomorphic; my legs are not. I've always known this intuitively. I've always had a feeling that the two halves do not work together harmoniously. I liked riding horseback because the dysplasia between the two ends does not interfere.

Hughes: Fascinating.

Roll: These are the little side issues of somatotype.

#### Albert R. Behnke and Body Composition

Hughes: I came across the name Albert Behnke, who apparently did studies of body composition. Did his work have any influence?

Roll: Yes, it did. Behnke's work had a great influence on my thinking. I came across Al Behnke's work after I left Sheldon. I didn't know about Behnke before that, I'm sure. I suppose someone at NYU, when I was doing graduate work, called my attention to his research.

Al Behnke was a navy medic--an unusual one in that he was almost entirely a research person. He was a captain in the navy, which is pretty good in the medical corps.

He was particularly interested in body composition. He was one of the pioneers in calculating the specific gravity of a whole body, which is not easy, as you can imagine. He did it by submerging the body in a tank of water. Specific gravity was reflected in the water displacement, so that the more endomorphic the subject, the lower the specific gravity. People with very low endomorphy approached one in specific gravity. The endomorphs float and the--

Hughes: --ectomorphs don't.

Roll: Well, low endomorphy ectomorphs sink. Very mesomorphic people who are low in endomorphy also sink. I can remember a physical educator saying to me, "You know! All of my black students go in the pool and sink." I said, "Yes, I bet they do."

Behnke's work stirred up some ideas that became very important to me. I used it for thinking about distinguishing the degree of mesomorphy in the presence of a similar degree of endomorphy. Behnke's concept of body composition in the fat-free envelope got me to thinking about what we really do when we rate individual components.

When I look at a somatotype photograph, what I really am doing is trying to visualize what that body would look like without any subcutaneous fat. That tells me how much mesomorphy there is. JK (John Kilepak)<sup>37</sup> had almost no subcutaneous fat, so I knew immediately what his mesomorphy was. If the subject is lean enough, you know instantly. But if endomorphy and mesomorphy are close together, rating is difficult.

Hughes: Is that just a matter of learning by experience?

Roll: Yes, sure. You have to be interested in shape and little differences. You get so you notice these. You separate out the somatotype component by component, and then put it all back together again. But first, you get a general idea of the somatotype by looking at the photograph and the measurements-- particularly the height/weight ratio and the total skinfold measurements.

Sheldon made quite an issue of making somatotype ratings by region--head and neck, upper torso, lower torso, arms, and legs. The theory was that you add up the five regional somatotypes by component, and then divide each component by 5. It really doesn't work very well. Besides it is tedious.

Hughes: He thought it would be more objective to do it that way?

Roll: Oh, sure. He wrote a little about this approach to estimating dysplasia, which was theoretically reasonable. Oddly enough, he did not follow this procedure himself. Apparently he thought it sounded like a good idea.

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<sup>37</sup>Margaret Mead's former houseboy in Pere Village, Papua New Guinea. More on JK below.

But back to Behnke: He did some very interesting things. When I first knew him, I had read his paper on body composition. When I came out here to Carmel, it turned out that Behnke was directing a navy installation called the Naval Radiation Laboratory at Hunter's Point. He had several things going on.

One of them, which I found fascinating, was a somatotype photograph and all the anthropometry on himself. He also found a man--a navy character--who was exactly the same stature as he and weighed exactly the same amount. The two somatotype photographs next to each other were enough to sell you on somatotype for the rest of your life. They couldn't have been more different. The second man was a flab. But he weighed the same amount and he was the same height. But he sure wasn't the same somatotype. I don't remember their exact somatotypes. Behnke was something like a 4-6.5-1 and the other man was more nearly a 6-4-1.

Later Behnke went on a diet, one of those liquid protein diets. He went down by the [St. Francis] Yacht Club in San Francisco every day, where he exercised on the beach by moving remarkably heavy boulders around. As I remember it, he lost about thirty pounds. I have before-and-after somatotype photographs. As a result he barely increased his mesomorphy. He decreased his endomorphy substantially and increased his ectomorphy moderately. He still didn't look at all like his partner, and he hadn't dramatically changed his own somatotype. He did look a lot better, though.

Behnke was a delightful man. I got to know him very well indeed. He died about a year ago. Lindsay kept in touch with him. He said he became a little senile, which I grieved to hear. An exceedingly nice person, and very important. As I told you, when I was writing my thesis outline at NYU, I leaned heavily on his study of body composition. There is an account of this in the somatotype book.

Hughes: Does it make sense to go through the process through which you arrive at a somatotype?

Roll: Oh, I don't know that it does. I think that the content that went into the process, and an account of the people who contributed to the thinking is more important.

Hughes: Why did you think it was necessary to have a book on somatotyping?<sup>38</sup>

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<sup>38</sup>J.E. Lindsay Carter and Barbara Honeyman Heath [Roll]. Somatotyping: Development and Applications. Cambridge: Cambridge University Press, 1990.

Somatotyping: Development and Applications

Prologue

Roll: Well, I suppose that once any research person aggregates a large collection of data, doing some kind of writing up of it is more or less obvious. Lindsay and I realized that between us we had collected more material on somatotype than anyone else.

After I left Sheldon, it became evident that a number of people had accumulated somatotype photographs and measurements, but had nobody to rate them. They couldn't very well write up their own papers without valid somatotype ratings, which they were not trained to do. They wanted to report: "I have done a study of football players, and these are the kinds of physiques they have. I infer from this..." and so on.

Soon I became known as a person who could rate somatotype photographs. Jim Tanner in London sent me photographs. Another Englishman at a school of physical education sent me photographs. Sometimes the photographs were of males, and sometimes they were of females. Graduate students who were writing Ph.D. dissertations using somatotype data sent me their photographs to rate.

In most cases, I said I would either charge a dollar apiece for the photographs, or, if they let me keep the set of photographs, I didn't charge them anything for my ratings. In this way, I collected a large number of photographs. In the case of the Berkeley study, I was paid a fee--rather a substantial one. Harold Jones obtained a grant for the project. In fact, for a number of years I received several thousand dollars a year as a somatotype specialist/consultant.

In about 1958, as I told you, Harrison Clarke, the research professor of the School of Health and Physical Education at the University of Oregon, asked me to be the somatotype consultant for a big growth study of boys in the Medford, Oregon public schools.

There are many other studies. There was a study done by an anthropologist named Clyde Snow, a protégé of Fred Hulse's, who was at the University of Oklahoma. He was a consultant to the FAA, Federal Aviation Authority. He did a study of people who were trying to qualify to be FAA air controllers. He never got

around to publishing anything on it. I was paid generously; he also let me keep the photographs.

A friend of Derek Roberts got interested in somatotype--a medical doctor who was in charge of the medical care of the tunnel workers in the tunnel under the Dartford River outside London. John King's specialty is hyperbaric medicine. He is involved in decompressing people who do deep-sea diving of one kind or another. King took somatotype photographs and measurements of about 1,800 of them. Ultimately I somatotyped all that series, and I have all those photographs out in the other room.

It was this sort of thing that led to a book. And Lindsay has another collection of photographs of athletes from all over the world. We have the studies of the Olympic athletes at both the Mexico and Montreal Olympics. We decided that it was time to get all these data together and publish some conclusions. It was obvious that there was no other comparable body of somatotype data that documented so much. Never has been. And of course what Sheldon did publish was very short indeed on documentation.

Also, in the course of reviewing all the material I had, I found three samples that dramatically demonstrated that the scale had to be opened for each of the three components.

The first series I received was from Carl Seltzer, who is an anthropologist in Boston, with Harvard connections. He was a Hooton anthropologist. He did several studies of obesity. One of his series was on women who were in a summer camp to reduce obesity. They were unbelievable. He asked me if I'd somatotype them. Most of them had corsets on, or corsets half off. They were not very attractive. However, the measurements appeared to be accurate, so I was able to give them somatotype ratings. That series alone made it perfectly obvious that I'd been right: A seven-point scale could not encompass the degree of obesity in this series. And of course, with corrections for age eliminated, it was no longer possible to say the subject was a 7-4-1 at age thirty-eight, who was expected to weigh forty pounds more than she said she had at age eighteen.

In 1958 Margaret sent me the photographs and data for the Manus people of Pere Village. That series provided me with the evidence that there were men whose mesomorphy could not be rated on a seven-point scale.

Hughes: And you already knew about the Nilotes.

Roll: I knew they existed, but I hadn't seen the somatotype photographs or the anthropometry. When I was in Mexico City in 1967, for the--

Hughes: For the Olympics?

Roll: Actually I was there before the Olympics for a series of symposia, where we discussed possible research projects that might be organized around the Olympic athletes. I was invited down to these, with all expenses paid and a generous per diem. It was an impressive assemblage of anthropologists, geneticists, statisticians, biologists and probably some I have forgotten. One of them was a young immunologist, Douglas Bainbridge from London. He and Derek Roberts had co-authored a paper on the Nilote somatotypes that Derek studied in 1948-49.

I had studied the paper that he and Derek had written for the American Journal of Physical Anthropology. They had devised an interesting way of modifying Sheldon's scales to accommodate the Nilote data and the extreme ectomorphy of the Nilotes. I told Bainbridge I'd sure like to see those Nilote somatotype photographs. Bainbridge said, "Yes, that would be nice. It would be all right with me, but I think Derek's kind of touchy about those. He doesn't like to have his data floating around." I said, "Oh, dear, that's too bad," and gave up hope of ever seeing the material firsthand.

In 1968, I went to the Congress of Anthropology that met in Tokyo and Kyoto, half in each. I gave a paper on the Manus somatotypes.<sup>39</sup> Who did I find sitting right in the front row? Derek Roberts himself. So I met Derek. Of course I said, "Derek, I sure would love to see those Nilotes." He said, "Well, why not? I'll send you a sample of them. Why don't you come to Newcastle and somatotype the whole series for me?" [laughs] Well, Derek, as you know, became one of the best friends I have.

Hughes: He hadn't done somatotyping up to that point?

Roll: Oh, yes, he had. In fact Derek and I started the same year.

Derek is a remarkable person. Only recently his wife, Mary, told me the story of his injury to his right hand. When he was in the British army he was an instructor in hand grenades. He flung

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<sup>39</sup>Barbara H. Heath and J.E. Lindsay Carter. Growth and somatotype patterns of Manu children, Territory of Papua and New Guinea: Application of a modified somatotype method to the study of growth patterns. American Journal of Physical Anthropology 1971, 35:49-67.



one that went off in his hand--he lost all the fingers on his right hand. Mary said he told her it was unbelievable how many men had that same accident.

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Roll: The great thing is that he is absolutely unselfconscious about his hand. He uses his right arm and crippled hand as though nothing had happened to it.

He started his somatotype adventures in 1948. Of course he was out of the army, and I suppose he had finished with his classwork in anthropology at Oxford. So he went by himself out on a field trip in Sudan, where the Nilotes are. With one crippled hand, he literally single-handedly photographed and measured over three hundred Nilotes--a really heroic and extraordinary feat. He said he was always just about a step and a half ahead of a revolution. He told me that the politics in Africa were so explosive that every time he started to do a research project somewhere near there was a revolution. The Nilote study is a beautiful piece of work.

Derek's specialty in anthropology is genetics. When he had finished his graduate work and fieldwork, he decided that there wasn't room for him and Jim Tanner in the same part of England. He had an opportunity to go to the University of Newcastle upon Tyne. He set up what became the department of human genetics in a little five-story building, an old house. It is on the campus of the university, and it is part of the medical school. He became a full professor on the medical school faculty.

Derek does a lot of counseling in genetics to people who are getting married and have known genetic flaws in their families.

Hughes: He is an M.D.?

Roll: No, he is a physical anthropologist. A good many physical anthropologists who are not M.D.s have sub-specialties like genetics. Of course there are a lot of M.D. physical anthropologists who have Ph.D.s in anthropology as well--like Jim Tanner. And many of them are on the faculties of medical schools.

In 1975 I spent a month at the University of Newcastle upon Tyne. Just as Derek had promised me, I studied and somatotyped the whole Nilote series. Derek also asked me to somatotype all the other somatotype series he has done. It was at that time that I met John King and started the project of somatotyping his Dartford Tunnel diving subjects.

### Writing the Book

Roll: We started with your question about how it happened that Lindsay and I started the project of writing the book. You can see that with all of the materials I had plus those to which I had access and all the materials that Lindsay had, we had more than enough to work with. Then there were the rather large number of people I knew and all the connections Lindsay had. A book was a pretty obvious result. We assumed that once the book was finished, there were publishing companies that probably would be interested in publishing it. It just happened that Derek turned out to have a special interest.

Derek and his wife, Mary, usually stayed with us a few days whenever they were in this country for meetings and conferences-- which was at least once a year. On one of these visits, Derek said to me, "I want to talk to you. Save a morning". I said, "All right." He came in here (the study), sat down and said, "How's that manuscript?" I said, "Well, it's fine, and it's big," and brought it out. He said, "I'll look through it tonight. I think Cambridge University Press should publish it."

I was speechless. In my wildest dreams I never hoped for anything like that. Finally, I said, "Derek, are you sure you know what you're doing?" Among other considerations, this outcome removed the onus from Lindsay. I guess this was about four years ago.

Hughes: Tell me how you went about writing it.

Roll: It didn't take us terribly long to outline what the chapter headings would be and what the general content of each would be. Earlier, Lindsay had put together a handbook called The Heath-Carter Method, I think. It was a xerox sort of publication in paperback. Eventually it was taken over by the San Diego State Press, or whatever the equivalent is there. It was not too bad. I have copies of it.

In other words, we were already thoroughly familiar with the basic material that would be in the book. We set about deciding which parts of the handbook really went in an appendix, rather than in the body of the text. A large portion of the book is appendix--tables, raw data, instructions for using computer programs in analyzing data.

Having accomplished that much, Lindsay said, "Obviously, the first chapter is history, and you're going to have to write all of

that. After all it's the story of a good part of your life as well as the history of somatotyping". I, in turn, said part of the bargain was that statistical operations were going to be his responsibility, because he had the facilities of a university department available. We soon arrived at an excellent game plan for putting the whole thing together.

I put the whole thing into the computer and I edited every word of it. Lindsay said, "You're a much better stylist than I am," which is true. Also, we thought it would sound better if it was all in one style. So I did all the writing, including the editing of material he roughed out.

I don't think either of us could have done the thing alone, ever. For example, some of the tables are six and eight pages long. Lindsay put them together, mostly in longhand, and I copied them. Then he proofread them.

I think there are 150 somatocharts, which an editor at Harper's (when one of the Sheldon books was being published) referred to as "voluptuous triangles." They are triangles with bulging sides--called Rouleaux triangles. As I remember the structure has some significance in mathematics. We use them for illustrating somatotype distributions.

Hughes: Who developed the somatocharts?

Roll: Sheldon. But there's no proper history of how he happened to use this device. How they really developed seems rather mysterious. They just suddenly appeared in the second or third book that Sheldon wrote.

In any case, for the book we had the problem of charting each sample of somatotypes on a somatochart. This meant putting little black dots on the 150 or so distributions we had. I spent a whole summer putting little black dots on voluptuous triangles. Then Lindsay had to count the dots to be sure that if the captions said there were 245 subjects, there were 245 black dots.

Hughes: Tedious.

Roll: The amount of tedium in those five hundred pages is appalling.

Re-somatotyping Others' Series

Hughes: I know you re-somatotyped some of Sheldon's series. Why, and what did you find?

Roll: That's a very nice question, Sally. Lindsay and I were conscious of the fact that if we had modified the system, anyone with any sense would want to know to what degree our results differed from those of Sheldon's, done according to Sheldon criteria. So, in order to demonstrate that, I re-rated any series for which I had the photographs and/or data.

Lindsay selected a random sample of the twelve hundred photographs in the Atlas of Men. It was not an easy task, because the data were misrepresented in many cases. As I told you, Sheldon had, for example, changed the ages to fit the height/weight ratios. In order to decide which photographs to re-rate (the whole series was larger than we needed for this exercise) Lindsay did a statistical procedure of random numbers. I don't remember exactly how many photographs I did--three or four hundred, I think. In the appendix we published the differences between Sheldon's and my ratings. I did the same exercise with a number of other series, which I'll get to.

The important point is that it's pretty obvious that the differences were not all that dramatic. We were not destroying one system and replacing it with another and calling it the same thing. Our modifications shifted the results to just about the degree that one would expect, assuming one was really listening to what we did. The result was not shocking. It was significant but not shocking.

I also re-somatotyped all of the photographs in Sheldon's study of delinquency, Varieties of Delinquent Youth. This was an interesting exercise. It became specially interesting when Sheldon's co-author, Emil Hartl, and a young doctor named [Edward P.] Monelly, did follow-ups on the original study, and published them.<sup>10</sup> But they did a very peculiar thing that I simply do not understand. They followed up the subjects, but so far as I could make out, all the follow-up amounted to was a social history of what had happened to them--who died, and so on.

Hughes: But no further?

Roll: No re-measurements. The oddest thing was their use of the photographs. They published photographs all right. When I looked at them carefully I realized they were simply the same photographs

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<sup>10</sup>Emil Hartl and E.P. Monelly. Physique and Delinquent Behavior. New York: Academic Press, 1982.

that had been published in Sheldon's 1949 book.<sup>41</sup> I am nonplussed, to say the least. I can't imagine how anyone could take such a presentation seriously. They did trunk index ratings on them, with the most bizarre results. Using the trunk index criteria on the 1949 somatotypes and heights and weights, changed the somatotypes. Come to think of it, this use of the trunk index caps the whole story. It's the best example of the inconsistency in Sheldon's revision of his own method.

As I said much earlier, Sheldon first said the somatotype doesn't change. Then suddenly, in the 1960s, apparently as an afterthought, he adopted what he called the trunk index method, in which, as far as I can make out, he conceded that the somatotype does change. Or at least it certainly had changed from the ratings according to the old system.

I was fascinated when I looked at the delinquency series with Sheldon's original published ratings, my current modified re-ratings, and the Hartl/Monnely trunk index ratings. If anyone took the trouble to look carefully at these three sets of ratings I should think it would be obvious that someone wasn't making sense. Of course you and I know who is making sense!

Hughes: Yes, of course we do. [laughter]

Roll: So that was another one I re-somatotyped. Another series I re-rated was Tanner's Atlas of Children's Growth,<sup>42</sup> in which he published a selection of the somatotype photographs. Some of them were from ages eighteen months or so, and most of them went all the way through to age eighteen or nineteen. There were in all, I think, in his atlas, somatotype photographs of eighty or ninety subjects.

In his atlas, Tanner published the raw data, as he always has. The tables of the measurements are all there, which is simply beautiful for my purposes. He also included a great deal of data like their growth curves. These are subjects from the Harpenden Growth Study, which I mentioned earlier.

Tanner gave the somatotypes on the last photograph of each subject. No ratings on the earlier photographs. Of course, in good Sheldonian somatotyping their somatotypes were the same from

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<sup>41</sup>W.H. Sheldon. Varieties of Delinquent Youth. New York: Harper and Brothers, 1949.

<sup>42</sup>J.M. Tanner and R.H. Whitehouse. Atlas of Children's Growth. New York: Academic Press, 1982.

the beginning. I remember that in one of his books Tanner was unwise enough to say that anyone who knew anything about somatotyping could predict with great accuracy the adult somatotype of a subject from age six. [laughs] Well, I cannot.

Hughes: Was that the basis of your falling out with Tanner?

Roll: No. The basis of my falling out with Tanner came when he and Margaret and I were going to write an article about the Manus somatotypes. I announced to Tanner that I couldn't in conscience call an eight in mesomorphy a seven. He decided that he couldn't in conscience call it an eight. He wrote a draft of the article. I couldn't accept his ratings, and he wouldn't accept mine. So then I wrote the article and asked him if he wanted to be an author. He said no.

Hughes: And that was the end of the relationship?

Roll: Pretty much.

Here is the table of my ratings of Tanner's Atlas subjects. I rated them from age three to nineteen. I rated the whole bloody series. I have always said one must have an enormous tolerance of tedium to do things like that. I am blessed with that tolerance.

Hughes: And Tanner isn't.

Roll: Well, he must have it in some enterprises, judging by his output. I am puzzled about Tanner. He is probably the most accurate measurer in anthropology. His measurements are absolutely reliable. He and a man named Reg Whitehouse together measured and photographed these children twice a year. They always did a certain number of measure and re-measure, test and re-test exercises, for accuracy. They became so accurate they were not even millimeters apart.

His Atlas is a remarkable compendium of normal growth patterns, with beautiful examples of syndromes like Downs' and Turner's and a half-dozen others that I know nothing about. He made no somatotype ratings for any of the subjects who had abnormal growth patterns. He just gave them as examples. For example, he included several examples of achondroplastic dwarfism. I am familiar with this syndrome, and know the subjects have a fascinating somatotype. I don't understand the reasoning behind this sort of omission. After all, Tanner did know how to somatotype by Sheldon's system.

More on the Heath-Carter Method

- Hughes: What about the reproducibility of the Heath-Carter method? What kind of checks did you and Lindsay have?
- Roll: We've done a lot of that sort of validation. We have separately rated series after series after series. Our correlations are in the .987 region, and sometimes higher.
- Hughes: What about when other people use Heath-Carter?
- Roll: Many others have tested themselves against our ratings.
- Hughes: So they're very reproducible?
- Roll: Yes, they've been reproducible. They've been highly satisfactory. So that's not a problem. Sheldon and I used to run correlations; I could reproduce his ratings perfectly--using his criteria.
- Hughes: What about training people to use the Heath-Carter method?
- Roll: What about it? [laughs]
- Hughes: Well, do you train people?
- Roll: I have done comparatively little. I did take photographs and a lot of material to Philadelphia, where I ran a one-week symposium at the University of Pennsylvania department of anthropology.
- Hughes: When was this?
- Roll: A couple of years ago. Lindsay teaches somatotyping regularly at San Diego State. He also teaches one-week courses all over the world. He's done a great deal of it.
- Hughes: Can anybody with the ambition do it?
- Roll: Oh, yes. Anyone with an interest in the shapes of bodies and the ways the shapes differ one from the other can learn to somatotype. With measurements and a photograph in front of you, and a good teacher it is a cinch. You start with the extreme somatotypes and work toward the center of the distribution. It's very simple. And most people, even those who are not gifted at it, catch on very quickly.
- Hughes: Does the Heath-Carter method work equally well with both moderate and extreme somatotypes?

Roll: Oh, yes, I think so. And it works a lot better than Sheldon's method, because we have the skinfold measurements. If you are in doubt about whether it's 4.0 or 4.5 in endomorphy, the skinfold measurements are pretty apt to settle the dilemma.

Of course, there is always the possibility that there is an error in measurement. Actually, learning to catch measurement errors is not as difficult as you might think. My favorite example of that was in Mexico at the Olympic Games in 1968. The graduate students at the University of Mexico City were doing the measuring, and they were doing it very well. The woman who taught them was a good anthropologist and very fussy about all the testing--insisted on test re-test. Every morning I rated the latest accumulation of photographs. One day I came to a photograph I couldn't reconcile with the measurements. I said, "Either the height or the weight is wrong. I think it's the weight, and it's about ten kilos (22 pounds)." "Impossible! These kids really keep their minds on what they are doing. I've trained them that way." I said, "I cannot somatotype that photograph according to the data. My eye says it's something else." To my astonishment, they found the subject and brought her back, and re-measured her. She weighed exactly ten kilos less than the record showed. Which really charmed me.

Hughes: But somebody else would not have caught that.

Roll: Anybody with reasonable experience--

Hughes: --would catch that?

Roll: Yes. You look at the photograph and then at the data--and you just know that the data and the photograph are not compatible. I've been pretty sure of myself whenever I question data. And I've questioned it a good many times.

Hughes: I'm gathering that some somatotypes are easier to rate than others.

Roll: Oh, with some of them recognition is instant.

Hughes: Can you generalize on what parts are more difficult?

Roll: The lean physiques are the easiest. The nondysplastic physiques are among the easiest. Lack of dysplasia and low endomorphy are very conspicuous. The very endomorphic somatotypes are easy in one respect. They're easy because you know that they're not going to be higher than one in ectomorphy. By definition, nothing that low on the height-weight ratio scale can be higher than one in ectomorphy. The grossly obese are likely to be three or higher in



mesomorphy, because it takes at least that much mesomorphy to carry all that blubber around. It's not really very important whether you rate them as 15.0-3.5-1.0 or 15.0-4.0-1.0.

Hughes: And in some cases, the endomorphy is simply masking the mesomorphy?

Roll: Yes. There are certain structural characteristics you recognize. There is a kind of leg structure you immediately recognize. The leg is almost a blob of fat, and it almost tapers at the ankle in a way that tells you the underlying mesomorphy is low. There's another kind of leg with more mesomorphy, a well-shaped massive leg, with a well-developed gastrocnemius [muscle] and an ankle with conspicuous bony structure.

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Hughes: Would you say that somatotyping is objective?

Roll: It's both objective and subjective. Somatotyping, as Heath and Carter have modified it, is objectified by the introduction of careful anthropometry. It is subjective in that one must be critical of one's own judgment. You have to be able to tell yourself, "No, I am not totally believing the measurements, which may not be totally accurate." You have to remind yourself that you can have remarkably high mesomorphy with lean physiques that have a lot of ectomorphy. You have to remind yourself that blacks probably are going to be more mesomorphic than you think they are at first glance. There's something about the color of the skin that makes them look more elongated than they are. I don't think anybody can be a very good somatotyper without taking a keen subjective interest in these subtle differences. It's not a mechanical operation. It isn't like going out and measuring the fence. You have to really be interested and begin to think about that photograph as a photograph of something that's alive, and be able to visualize what that individual looks like in motion as a living creature.

[Interview 6: June 24, 1990]##

### Body Composition

Hughes: Is there a big difference between somatotype and body composition?

Roll: There is a vast difference. A lot of research has been done on body composition. It arises from an interest in physiology, in

physical performance, in nutrition, and only indirectly came to be related to somatotype. People interested in somatotype realized that to describe what a human physique looks like, and describe it quantitatively, has to do with the composition of the body. In fact, somatotype really grew out of the awareness that an asymmetrical construct in three dimensions is extremely hard to describe because it has so many parts, each of which has different dimensions and different composition.

So one of the aspects of the shape of the human body is its composition. Different parts of the human body have different densities. They have different amounts of fat; they have different amounts of water, and so on. Anything that helps to describe a living organism, which of course you can't take apart and examine, arouses research interest. I don't know much about the studies in body composition. I do know it has been an area of research of great interest to people like Ansel Keyes and Joseph Brozek. There are probably dozens of others.

Related to body composition are studies like blood volume. The physical educators are interested in body composition because they are interested in oxygen uptake and all of the various aspects of physiology which have to do with physical performance. So it was a natural consequence of all these kinds of research for people interested in somatotype to look to blood volume studies, to X-ray studies of the skeleton, to body composition studies, as shedding some light on what we meant when we described the physique in terms of somatotypes. Actually, body composition per se has nothing to do with somatotype.

Hughes: So there was never any attempt to link mesomorphy, for example, with a certain percentage of water in the body or whatever it might be?

Roll: No. There have been attempts to estimate total body fat and to set standards for the ideal amount, or percentage, of fat that is optimal in the composition of the body. Somatotype came into that indirectly. These are the kinds of details that I haven't followed carefully. This is the sort of thing Lindsay could tell you about.

I know that some researchers have tried to link measures of body fat as reflected in skinfolds with body composition studies of percentage of fat in the body as a whole. Theoretically, body composition studies, like the water displacement type of body composition studies, measure internal deposits of fat in addition to subcutaneous fat. I know that the physical educators and others--nutritionists, I think--have set up estimated percentages

of body fat as ideal. To be over the presumable ideal percent is bad for your heart.

Incidentally, another approach to body composition is what is called hydrostatic weighing. In this procedure the whole body is submerged in water. There are also some chemical approaches.

Hughes: I know radioisotopes have been used.

Roll: Body composition is a big area of research, and people who are interested in somatotype are interested in it. However, I don't think the relationships have proved spectacular.

### Usefulness of Somatotyping

Hughes: Has somatotyping gotten us any closer to answering the relative contribution to physique of genetic endowment and environmental factors?

Roll: No, not really. There have been some interesting studies of twins, particularly twins who have been separated at birth. The idea is to see whether they will develop the same somatotypes irrespective of environment. They do seem to be more like each other than siblings are when separated and brought up in different environments.

But I would say that the usefulness of somatotype is implied rather than real. Perhaps one way of putting it would be that Lindsay and I, and I in particular, have spent our time in modifying and perfecting the technique. I have said that, ever since I adopted somatotype as my chief enterprise, I have addressed myself to methodology and not application. One can't do both. I realized we had to have a proper tool before it would be very useful. I made peace with the idea that I was not going to prove its usefulness myself. That's for someone else to do.

In the somatotype book, in the last chapter, we discuss new directions and possible applications. I think there are some specific areas in which it could be extremely useful. We talked earlier about the significance of dysplasias. I think dysplasias are certainly reflections of direct genetic inheritance. I don't think there's any doubt about that. The genetic aspects of somatotype have not been investigated, and I think will not be until researchers are interested in directing their attention to describing dysplasias, really including them in the somatotype. Logically it is the next step.

Adding dysplasia to somatotype studies means that ratings of dysplasias should be recorded with the somatotype ratings. I have no doubt that such a procedure would require careful consideration of the body as a whole, together with some data about the subject's ancestry. We're a long way from that kind of observation.

I've always thought that another great potential of somatotype is in guidance of children. I think that it would be very useful for every child to become acquainted with his own somatotype. Body image is what it really is. There's a lot of talk about body image, but not, I think, very realistic talk. If you are confronted with a photograph of yourself and if you are also confronted with photographs of other people of both similar and dissimilar somatotypes, you begin to see who you are in dimensions that are not commonly thought of. This approach makes it possible not only to show a growing child what he is now, but to illustrate with other photographs the kinds of possible physiques that that child may have as he or she grows. I think this approach could be very useful.

For example, what we referred to yesterday: the powerful athlete has a son who any fool could tell you is not going to have the same athletic record that papa had. And it might be extremely useful to convince both the child and the father that this individual will have a different athletic outcome from his father. It might save a considerable amount of suffering if both of them faced the likely future. You may have either a boy or a girl who wants to play basketball or be a runner or a swimmer, and there are certain kinds of swimming and certain kinds of racing for which certain kinds of physiques are more suitable than others.

The physical educators are aware of this guidance dimension. They are also aware of the usefulness of somatotype and the obvious correlation between certain kinds of physiques and certain sports. They would like to apply what we know about somatotype and athletic ability in choosing the best candidates for their athletic teams.

For instance, there are considerable differences in somatotype among football players who play different positions on the field. There is some use in these kinds of insights. I think the available insights should be applied to general athletic performance. It seems to me the physical educators and teachers in general could simply take it for granted that American kids are pretty likely to want to do some kind of outdoor sport, something athletic. It would be useful to start them off in the directions in which their particular physiques seem to be pointing. Again, this is a matter of working from the extremes toward the center,

and it would be well when you get to the center of the distribution where most of the people are, to help children to face early on that very few of them are going to be champions. They know it in their hearts, but if you said, "Look, this is where you are; you're here with all the rest of us. Just don't have expectations beyond what your physique is going to allow you." There probably is some genetic guidance implicit in all this too, that children are unlikely, with parents A and B, to produce a champion performer in any sport.

### Sexual Dimorphism of Somatotypes

- Roll: Of course women are able, with much slighter physiques, to do all kinds of outstanding things. I even think that it might calm the feminist waters a bit if they had to face up to the really significant differences between the average female physique and the average male physique. Both somatotype and physiology contraindicate some of the credo of the feminists.
- Hughes: You mean that, for example, the best woman runner will never be as fast as the best man runner?
- Roll: Probably not. So far as we know. Now, I'm by no means sure that this would hold for the whole species. I know that the women in some other ethnic groups are more mesomorphic than among the American population.
- Hughes: But are they more mesomorphic than the men of that particular group?
- Roll: No. I'm thinking of competition with women. I think it's doubtful if the best women athletes could be superior to the best men.
- Hughes: Because of their lesser musculature?
- Roll: Yes. They don't have the same mass, either. So far as I know, sexual dimorphism is universal. I think it's worth inserting little things like this, of which very little has been made. I did some comparisons of the somatotypic sexual dimorphism in the various samples in which we have studied both men and women. The Manus women are more mesomorphic on the average than women in other samples. The Manus men are more mesomorphic than any samples that we have. But the distance between the average mesomorphy of women in Manus and the men in Manus is greater than

between any male-female somatotypes that I know of. This is very fascinating, and I don't know what it implies.

Hughes: I want to pick up on something you said to Margaret in that taped conversation, which was in 1974.<sup>43</sup> You said, "The terribly important thing about the somatotypes of women is that dominant components are rare. It is even rarer for mesomorphy to be the dominant component." I was wondering, why do you find it significant that in women there usually isn't a dominant component?

Roll: I find it significant because to recognize that is to be realistic about the difference between male and female physiques. It is important to recognize that in general women are less mesomorphic than men and are rarely dominantly mesomorphic. That is really rare. There are almost no women with more than a five in mesomorphy.

Hughes: Even the Manus women?

Roll: Oh, yes, even the Manus. I can think of two or three massive women in the Manus population, but I don't remember anybody being over five.

Hughes: How high do the men get in mesomorphy?

Roll: The men get up to eight, and a few are even as high as nine. And so do some of the massive male Olympic-range athletes. There's a huge difference between the somatotypes of male and female athletes too. I cannot imagine anything you could define as a female getting up to even a seven. I have seen two sixes among women, but they are rare and they are strange.

Hughes: What race were they?

Roll: One of them was Caucasian. I'm not even sure she was a six. She certainly was a five and a half, and she seemed very muscular. The other one was black, and she was in a mental hospital. She had been in a Communist cell in Chicago and at one time apparently had reached a fairly high level of education. When we saw her, she was in a manic phase in which she said, "Plato! Aristotle!" and waved her arms in the air. She was marvelous. If I hadn't been able to see her without any clothes, I would not have believed I was looking at a woman. She was very lean; I don't

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<sup>43</sup>Unpublished transcripts of a conversation between Margaret Mead and Barbara Heath, May 2 and 3, 1974.

know whether she had ever been less lean. But her physique was spectacularly different from the physiques that I had seen.

There are women with five in mesomorphy who are enormously obese. But this is unusual. There was a scattering of fives in mesomorphy in the college populations that I photographed. For example, I suppose I'm about a four in mesomorphy, which puts me in the ninetieth percentile for mesomorphy. I am strong by female standards. Many of the Olympic athletes are 3.0s and 3.5s in mesomorphy. In fact, massive physiques among the female Olympic athletes are unusual. The highest mesomorphy is usually found in females like the gymnasts, who also are not very high in ectomorphy. They tend to be pretty compact physiques.

Hughes: Why can't you get great extremes in women in endomorphy?

Roll: You can, and do.

Hughes: You said that dominant components in women are rare. But I guess that doesn't mean they don't occur.

Roll: No, it doesn't mean they don't occur. The massively obese are dominantly endomorphic, all right. But I don't think that makes it extremely common.

Hughes: No, it doesn't.

Roll: However--this is a casual observation and not to be trusted--I get the impression that obesity in women in particular is on the increase. Now, I don't know whether that's true or whether they used to stay off the streets.

Hughes: Where?

Roll: Everywhere I go in this country I see an amazing number of remarkably obese women. I find this quite extraordinary. I may be wrong; they may not be as numerous as I think they are. I've learned to distrust casual observations. I suspect the grossly obese are shockingly self-indulgent. I, of course, also don't know how much obesity is linked to some idiosyncrasy of metabolism. I've always been skeptical of that idea, but I may be wrong.

Hughes: Recent studies of twins indicate that there is a large inherited component, that some people just gain weight more readily than others.

Roll: I suppose that is true.

I find it a little unsettling to hear so much propaganda about the equality of women. They are not equal physically or structurally. They're different. Each kind of structure has unique usefulness and importance. But to say, "Well, I can do that just as well as you can," is foolish and I think evokes all kinds of hostility between the sexes, which is most unfortunate.

From that point of view, I think if all women would face up to somatotype differences they might gain some insights. In fact, I'd like to insert four somatocharts here, which illustrate graphically, and I think, clearly, the essential message of the somatotype concept. I am also including the somatochart that Sheldon presented to illustrate his idea of the male somatotype distribution. As you can see, he has set up rating scales that confine all somatotypes within the confines of the so-called somatochart. The other three somatocharts are drawn to conform with my modifications of his method, which use an open rating scale which is compatible with the possibility of physiques not found in our average population.

The second somatochart shows the distributions I found in three samples that could not be rated by Sheldon's scale so as to show their differences from his distributions. The distribution at the top of the somatochart is a sample of adult males I somatotyped in Pere village. The distribution in the lower right corner is a sample of adult males in Derek Roberts' study of Nilotic Negroes in Sudan. The distribution in the lower left corner is a sample of adult females in Carl Seltzer's study.<sup>44</sup> I was particularly pleased with this somatochart, because it accomplished two objectives--first, it showed the difference between the Heath-Carter somatotype method and the Sheldon method; and, second, it showed the conspicuous differences among extreme somatotypes.

The third somatochart provides a comparison of Heath-Carter ratings of adult American males with the first somatochart, which is Sheldon's concept of the distribution of the same adult males.

The fourth somatochart shows a distribution of adult American females rated by the Heath-Carter method. It is obvious that women are dramatically less mesomorphic than men. Among the thousands of somatotypes of women I have rated I have seen two who might be sixes in mesomorphy, none that are sevens. The 5.5s are exceedingly rare; the fives are rare; the mean mesomorphy for women is three.

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<sup>44</sup>Carl Seltzer. Body build and obesity. Journal of the American Medical Association. 1964, 189(9):677-84.



More on the Usefulness of Somatotyping

Hughes: Have you found any correlations with the typical activities that Manus men and women perform?

Roll: No. It hasn't been studied. Any observations along that line would just be casual observations. I have come to distrust casual observations.

Hughes: Has any use been found for the fact that the somatotypes of certain ethnic or racial groups fall within characteristic regions, such as the dominant mesomorphy of the Manus?

Roll: I don't think anything useful has ever been made of it. I don't even see what the potential would be.

However, I think there is a guidance possibility. Also I would like to see further interpretations of the kinds of activities, even outside of athletics, that various physiques are good for. It is very speculative indeed to think about advising people about activities other than athletics. But I think the potential exists.

Mind you, I must confess that applications of somatotype are limited. I know of only one research project in which somatotype has proved to be useful. This is Dr. John King's study of the tunnel workers employed in the construction of the Dartford Tunnel in London.

John King is an English physician, whom I met through Derek Roberts, at the medical school of the University of Newcastle upon Tyne. Because of Derek's interest in somatotyping, John set up a research project to study the effects of pressure (called hyperbaric, I believe) on men working on the tunnel. He was the physician in charge of all the men on the project. It was his role to decide whether they were in suitable physical condition for the unusual hazards of their occupation.

He found that certain somatotypes are more susceptible to a bone disorder in which the bony tissue breaks down. I can't remember what they call it right now. Those excessively high in endomorphy, he found, were a very poor risk for deep-sea diving. Well, of course, it's a poor risk for anything. But what he found was that people who were unfit for deep-sea diving tend to cluster into a somatotype group. He arbitrarily threw out people who had excesses of so many millimeters of total skinfolds, which

translated into five and higher in endomorphy. He found this really useful.

Hughes: You mean he actually used that criterion for selecting divers?

Roll: He actually used it. The divers came in to consult him routinely, for all kinds of reasons. He was the medical person on the station. It was a regular routine: You have a chest X-ray, you have a somatotype photograph, you have a blood workup. He's the only person I know of who has routinely included somatotype photographs for thousands of people. I had the photographs over there in the bookcase for a very long time. They took up the whole bottom shelf. Now they are filed with the other photographs in Fred's photographic workroom.

Hughes: How many years of work did that represent on his part?

Roll: Well, he is still doing it, and I first became acquainted with him and the project in 1975. So it's been going on a long time.

Hughes: I would think it would be very important to a physical educator who was really attempting to use this information to be able to distinguish between the genetic endowment and what was an environmental factor. Have there been studies to determine how environmental factors influence somatotype?

Roll: Yes, there have, but they're not studies that I've kept very good track of. However, I can make my own little personal observation about it. The environment, of course, includes your nutrition, your exercise, and all of the things that are external to what's going to happen to you anyway. Very vigorous and rigorous physical training like pumping iron will lower the endomorphy, certainly, and will hypertrophy muscles, which means that your mesomorphy increases. A person who goes on that regime for some time and suddenly quits goes right back to the mesomorphy he had before. That hyper-training disappears fast. And all regular exercise regimes lose their effectiveness, not only somatotypically, but in other respects. One goes out of training so fast it's shocking.

Hughes: And you go right back to your original somatotype?

Roll: You go right back to where you were. This is true of almost any kind of somatotypic change. For example, and I'm not talking about an athletic regime but about an imposed environmental change. There was a study done in a veterans' hospital in New Jersey, I think. There was a young guy who came into the hospital with some kind of a mental illness. He probably was diagnosed psychotic. Whether he really was psychotic or not, I have no

idea. He was pretty low in endomorphy. I'm trying to think what the treatment was.

They probably gave him drugs to calm him down, but in the process they also put about fifty pounds on him. An enterprising earlier associate of Sheldon's, who was a social worker in the VA hospital, took somatotype photographs of him through several stages. When they stopped whatever the treatment was, which lasted about six months, he was right back to his status when he came in. In other words, somatotypes are sensitive to some kinds of environmental influences.

Now remember, what was changing was his endomorphy and his ectomorphy, which are inversely related to one another. It simply means that as you gain weight, you lose ectomorphy. Mesomorphy changes much less. It becomes more difficult to judge the mesomorphy if the physique is in lousy condition. So that when the posture slumps and the energy is gone, it's not as easy to read it.

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Roll: It is mostly the muscles that show the change. So far as I know the skeletal system is little changed. There may be some compositional changes that would be difficult to ascertain. There may be studies of this; I don't know. There might be changes in bone density, there might even be changes in the composition of the bone marrow, for all I know. I don't know that this is a somatotype-related problem.

To sum up the applications of somatotype: I would say that if it is going to be a useful research tool, there is a lot of work to be done. I think one of the reasons that I can endure the tedium is that I don't regard somatotype as a panacea for ills or necessarily the most important thing that's been done. In fact, I know it's not. I think the world would have staggered along pretty well without it.

There are two kinds of prejudice in favor of one's research interest to be avoided. One is to think you yourself are important, and the other is to believe that what you are doing is going to have some shattering significance for all of humanity. It won't. People frequently ask me, "What is the usefulness of this? What are you doing it for?" I do it because it's interesting. I do not cherish any great illusions about its usefulness. I think it may be potentially useful. I think it is potentially infinitely more interesting than anything that's been devised so far--in ways of classifying and describing variation in human physique. I think that there are potential linkages between

refinements of somatotypic description and other inquiries into human physiology and human physique and human performance and genetics that haven't been thought of.

Hughes: What about the potential for using somatotype as a predictor of future physique?

Roll: I think it's very useful for that. For example, if you're thinking of somatotypes of children, I think it's enormously interesting to find the links, for example, between somatotypes and growth curves. The acceleration of maturation. We do know, from the Medford study, something about the 2-3-3 kind of somatotype that is quite often encountered in prepubertal boys. This happens to be true for little boys; I don't know whether little girls are the same or not. That kind of an immature, apparently unpredictable outcome somatotype is linked with slow skeletal maturation. The epiphyses are not closed yet.

Skeletal age is a very interesting, indirect measure of the stage of a child's maturation. So that somatotype, in that sense of prediction, is very useful. It's very useful to know that a sixteen-year-old simply has a delayed skeletal age and he shouldn't be doing a lot of things that another kid whose epiphyses have closed can do.

Yes, I think it's very useful. But a somatotype all by itself isn't going to be very useful. Having the somatotype implies you jolly well need to know some more. There are a lot of things you can't know without exposing the child to X-ray or disturbing his equanimity by drawing blood and collecting urine. It means a real application of the kinds of things that somatotype implies. It also implies an enormous amount of physiological, medical research.

One other little item that's an important thing: it's very easy--and Sheldon fell into it, and he cautioned against it--to refer to people as ectomorphs or mesomorphs or endomorphs, which really doesn't tell you very much. I certainly prefer to refer to people by their whole somatotype.

Instructor in Anthropology, Monterey Peninsula College, 1966-1974

Hughes: Barb, from 1966 to 1974, you taught at Monterey Peninsula College.

Roll: I taught one course. It was physical anthropology. The course in physical anthropology was so described and prescribed that it was

regarded as a transfer course in the university system. Many of the courses in these community colleges are not university transfer courses. They're not accepted for credit. Physical anthropology was.

The way in which I came to teach that course was rather unusual. There were a number of people around the community who knew of my connection with Margaret, and people who knew that I did something that was called somatotyping. There was a man at MPC who was the dean of faculty, named Rhodes. I don't think I'd ever even met him, but he called me and said he'd like to talk to me about teaching anthropology. So I went to talk to him. I said, "What are the academic requirements?" Well, he told me I was supposed to have done so-and-so and so-and-so. I said, "That's what I suspected. I do not qualify no matter how you twist it. I do not have the qualifications to teach in this college." "Oh, I'll fix that," says he. "I know that you're the only person for this job." Whoever had been teaching had left to do something else.

I was both flattered and tempted, but I didn't take it very seriously. I talked to Margaret about it, and she said, "I think that's a splendid idea. It's the only way you're ever going to learn anthropology thoroughly." I pretty much agreed with her on that score.

Hughes: Had you done any teaching since your Portland days?

Roll: No, nothing. In fact, I'd done very little public speaking. Of course Margaret got in the act, and I began putting together all these data: what I had and hadn't done, and what I did and didn't need to do, and so on. Well, ultimately, I was given certification which in effect said that I was qualified to teach anthropology by virtue of my eminence in the field.

I thought "eminence in the field" was a rather nice idea.

Hughes: Was that a legitimate category, or had it been created?

Roll: No, it was a legitimate category at the state level. There was only one other person on the faculty who was in that category. He was a sculptor. [laughs] So in my usual maverick fashion, I took off on a career of teaching. Margaret was absolutely right; I learned anthropology. The course met twice a week in the afternoons for two hours each.

Hughes: And you lectured for two hours?

Roll: I lectured for two hours.

Hughes: Did you devise the curriculum?

Roll: I modified it, but considerable guidance already existed. There was a course descriptions which existed--in fact it was in the college catalogue. There were a variety of materials from previous presentations of the course. And of course there were library resources.

It was supposed to cover human evolution, geologic time, the elements of genetics (as of twenty-five years ago), blood groups, and much else. I've forgotten now what the course description was. I think they had already been using Fred Hulse's text,<sup>45</sup> and that suited me very well because he was a mentor of mine. So I used Fred Hulse's text, and in due time when he had a new edition, I adopted that. For outside reading I was pretty much on my own. I had some pretty definite ideas about what kind of things students should do. In general, I really invented the course as I went along, so that it seemed to me that it was conforming with the course description.

Hughes: In preparation, did you do a lot more than just read Fred Hulse's book?

Roll: Oh, I read extensively. I knew that this was not an easy course, and I was perfectly aware very early on that the level of educational background of the students in a community college leaves a lot to be desired.

Hughes: And was that indeed the case?

Roll: It was indeed the case. So, on my own, I decided to write a course outline pointing out the material I expected them to have some knowledge of for examinations, and made a big point of it. And I managed to pull most of them through.

Hughes: Were these mainly students who were considering a major in anthropology?

Roll: No.

Hughes: They were satisfying a social sciences requirement?

Roll: Actually, they were satisfying their own curiosity. Anthropology has a certain panache and appeal. I think that probably what they were expecting was a cultural anthropology course. I don't think they were prepared to learn some elementary statistics and to be

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<sup>45</sup>F.S. Hulse. The Human Species. New York: Random House, 1971.

able to deal with manipulating material about blood groups and to have some idea of what Charles Darwin really was saying. But most of them became interested in that. I have always thought that some of the material, in getting feedback from students, should be essay-type material. So I always had at least one essay question in examinations and had them write at least one term paper.

It was a wonderful experience, and I discovered that I liked teaching. Here I was faced each semester--it was a one-semester course--with anywhere from sixty to a hundred and twenty strange faces.

Hughes: That many?

Roll: There were always at least sixty of them, and sometimes more. It got to be a kind of a game.. I made a conscious effort to identify the lights that were out all over the room. Then I tried to think of ways of turning them on.

Hughes: Were you successful, by and large?

Roll: Oh, yes. I think it's fair to say it was a success story. A lot of the kids really loved it.

Hughes: Did you have any nervousness about standing in front of a group of sixty to a hundred?

Roll: I don't remember what it was like the first day. No, I got over that very quickly if I had it at all. I have done enough public speaking not to be self-conscious.

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Roll: It was a wonderful experience and I did learn a lot of anthropology. I became acquainted with the film material that was available. We were able to order our own films, choose the things that we wanted. The audio-visual department had massive catalogs showing what could be rented.

Not too far into this adventure JK<sup>46</sup> came and stayed with us. He came to all the classes, and he was a real hit. Also I introduced into the course a few lectures on somatotype, and I always showed slides from Manus. When JK was there, he explained the slides. He stood up there in front of them and said, "Me anthropologist too." [laughs]

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<sup>46</sup>John Kilepak, known as J.K., was a chieftain of Pere Village, Manus, New Guinea, the village which Margaret Mead began to study in 1928.

Teaching anthropology was a delight because there were enough students who obviously were turned on by it to be very rewarding. To this day, people come up to me and say, "I was in your class in 1972, and what a great teacher you were," which is balm in Gilead to the ego.

Hughes: Did any of your students go into anthropology?

Roll: Yes. Several of them majored in anthropology. One chubby woman who has since retired, even got a master's degree in it and taught anthropology. Rick Shoup, of course, went on to get his Ph.D.

Hughes: Was Rick a student there?

Roll: He was a student. Somebody told me that Rick Shoup was going to be in the class. I've forgotten why that was of interest to my informant. I knew that Rick was a relative of the marine general who disapproved of the Vietnam War, in which I had an acute interest, that is, I passionately disapproved of it.

I finally identified Rick. In fact, he was in the first row. He was not very much impressed with the first few lectures as far as I could tell. He seemed to be more eager to get out and play tennis than he was to learn anthropology. But after a few weeks I introduced the subject of somatotype. Rick sat up and he's been sitting up ever since. That was twenty years ago.

Hughes: Was he headed for anthropology at that point?

Roll: He wasn't headed for anything in particular. I think one of the most interesting things about that teaching experience was to see real changes in these young things just in the course of a semester. Many of them had been dropouts. Rick had a remarkable history. He had, through his great-uncle or whoever he was, an appointment at West Point. No, he got sucked into the Vietnam War first. He served in Vietnam, was wounded and decorated, and had terrible bouts of malaria. After that he went to West Point. He and a black boy resigned their commissions at West Point in their second year.

Hughes: Why?

Roll: He had become so disenchanted with the Vietnam War and with militarism in general that he quit. Both of them for the same reason, as far as I know. I don't know what he did immediately after that, but he somehow or other drifted to this community and decided to go back to school. He went two years to MPC and graduated, and by that time he had decided he was fascinated with somatotype. He and two or three other students in the class set



up a somatotype project. We collected about eighty somatotype photographs of both men and women.

Then I suggested that maybe the best step for him would be to go to San Diego State under Lindsay's protective arm and get his bachelor's degree there, which he did. He went from there to the University of Texas in Austin and got his Ph.D., long and painfully.

Hughes: Is that a strong department of physical anthropology?

Roll: Yes, it is.

My teaching career started in the Vietnam War and it was still going on at the very end. There was a lot of black unrest and some minor skirmishes on the campus and confrontations with the blacks. I used to wonder if I was going to have some real commotion in my class. I never did. The blacks behaved very well. Some of them became really good students and showed remarkable improvement scholastically. Many of them were really functionally illiterate.

I think that the college administration wondered what was going on in my class--but they humored me. I told each class, "Now, for those of you who are entertaining ideas of transferring to a four-year campus and are going to use your credit in this course as part of your transfer, I am going to hold you to university standards and you're going to have to really produce. For the rest of you, I will grade you on improvement, but don't you ever come to me and ask for a recommendation to use as a transfer. Let it be understood that I am giving two kinds of grades. Some of you are going to object to this, but that's my whim."

Also there were fundamentalists who informed me that they didn't want to listen to anything that had to do with Darwin.

Hughes: How did you deal with that?

Roll: I said, "Now, look, I don't have anything against your religious convictions. But I think you should know that I am an agnostic and I hope I'm reasonably tolerant. But I likewise expect you to be tolerant of me."

Hughes: So you taught Darwin.

Roll: So I taught Darwin. Without apologies. I leaned heavily on quoting the great people in anthropology whom I knew. I said, "I feel more comfortable when I quote from people about whom I know

something." I also told them, "There are books that you are going to be reading which probably are sound and authoritative, written by people I don't know, but I think that it has more color and more interest if I do happen to know who wrote them and why they wrote what they did and what their biases were and what their special competences were."

Hughes: And they probably loved that, didn't they?

Roll: And they loved it. They were crazy about it.

I asked them to write term papers. Some of them came to me and said, "Can I write about the Lost Atlantis?" My answer was: "If you can find a bibliography and put footnotes in to justify it, you may, but I don't expect it to be very impressive." I often heard the question, "You don't believe that?" I said, "No, not really. I have no reason to think that this is a serious topic." "Well, what about the Abominable Snowman?" [laughs] I said, "If you want to write about the Abominable Snowman, you bring me references. You bring me some evidence that somebody takes it seriously."

Hughes: And what was the quality of the term papers?

Roll: Some of them were spectacular. I still have a collection of them. Two or three people got hooked on the geological periods. One man got a roll of butcher paper and copied the relative spaces for each of the geological ages. He rolled it out clear around the room. Some of them wrote contemplative essays about themselves. These were kids who were upset about drugs and war. There were some druggies. I knew some of them long enough to find out that they came out on the other side of their problems. I used to do quite a lot of voluntary amateur counseling.

Hughes: Did you ever invite them to your home?

Roll: Some of them, yes. Some of them are still great friends of mine. One of them did those tiles out in front.

Hughes: How did you look upon your relationship with your students?

Roll: I looked upon it as a very friendly relationship and a very exciting conversation. It's probably fair to say that I became a great ham. It was a very vivacious interchange. It seemed obvious to me that I couldn't do it any other way. I never used notes. I read them things; I showed them films.

Oh, and the other thing, of course, was their concern with the draft. I bent over backwards to give them enough credit to

help them with that dilemma. The Vietnam War was the only issue that I can think of that I have ever been so emotionally involved in that I would stand up in public knowing that there were a lot of people that didn't like what I was saying. I really disapproved of that passionately.

Hughes: And you did stand up.

Roll: I did stand up, and there are a lot of people who still don't forgive me for it. Now people say, "You were once a liberal." I said, "I opposed the Vietnam War. I was never really partisan about other issues." If I was ever anything, I was a radical, in the sense that I was interested in going to the roots of issues--taking the word literally, according to its Latin derivation from radix, which means root. To me the liberal-conservative dichotomy was, and is, nonsense. That has nothing to do with me. To that degree I suppose it could be said I was involved "politically." I think that the college administration, at least some of them, had their doubts about me. There were others who were very supportive. In general I got along very well with the faculty.

Hughes: There was no problem because you were in an unusual faculty category?

Roll: No, they accepted that. I had enough clout because of what I had already published in ongoing research, so that I was left pretty much alone. Some of the faculty were people I had known outside of the college, who were already friends of mine. I think it's fair to say it was a happy relationship.

Hughes: Were there other anthropologists on the faculty?

Roll: Part of the time there were. There was one cultural anthropologist, a black man named Jerry Wright. He had a master's in anthropology and he also had whatever degree a librarian gets. He was one of the librarians in the college library but he also taught one or two courses in cultural anthropology. He later went back to Harvard and finished his Ph.D., and I've lost track of him.

There was a young sociologist, a real know-nothing, who taught a course in cultural anthropology. And there was a hysterical woman sociologist who taught a course in cultural anthropology. The cultural anthropology scene was something less than illuminating. Now there is a very competent anthropologist who knows enough physical anthropology to teach it and I think he probably teaches it very well. Most of the faculty are certainly more than adequate, and a lot of them are exceptional. I think

that small schools at both the lower levels and college level tend to be underestimated.

Hughes: Why did you stop teaching in 1974?

Roll: Because I knew that I wanted to write the book. Of course that only took another fifteen years. Teaching prevented me from doing anything creative outside of that. It was a full-time spare-time occupation. Scott [Heath] wanted me to stop because he thought I should be doing more with my somatotyping.

It happened that right after that Scott died. That had nothing to do with my stopping teaching. However, teaching interfered with my taking time off to go where I wanted to go. If I was to go on a long trip, it meant I had to do it during the summer, and sometimes that wasn't convenient. I suppose they would have retired me in another year at age sixty-five anyway.

### Trips to the Soviet Union

#### Learning Russian

Hughes: The next big topic is the USSR.

Roll: It really goes back to 1956, when there was a class in ancient Greek, which seems an unlikely way to go to Russia. I knew various people in the community who decided it would be a nice thing to have a class in ancient Greek. There was a retired professor of Greek living in Carmel. It probably was two nights a week. The combination of people was really remarkable. One of them was Eric Berne, a well-known psychiatrist. One of them was Milton Mayer, who was a slightly inflammatory and interesting writer. There was a man who was intellectual but never did anything really very interesting so far as I know. I was intrigued that he read the Darwin's Voyage of the Beagle every year. There was a photographer, who was rather a curmudgeonly character. And there was a writer who later became proficient in both modern and ancient Greek. It was rather an extraordinary group of six or eight people.

I took the Greek class primarily because I had always been a little regretful that I had never studied any Greek, while my mother had had four or five years of Greek starting in high school and continuing at college. I'd had lots of Latin. So the Greek

class appealed to me. It went on for about three years, I guess. We even got into reading the Dialogue of Socrates. We had a wonderful discussion about that. Milton Mayer wanted to read the Old Testament in Greek. I said, "I haven't even read it in English. I see no reason why I should read it in Greek." [laughs] So we settled for Socrates, which was fascinating.

Well, the Greek class ran out. Dr. Farley got too old, I guess. The next thing I heard was that there was a course in Russian that was going to be at the Carmel High School in the evenings, taught by one of the Defense Language School Russian teachers. I thought that sounded pretty interesting. I said, "If I can learn the Greek alphabet, I see no reason why I can't learn the Cyrillic alphabet." They are related.

Scott had taken no interest whatever in Greek. He said, "Who wants to learn a dead language?" I said, "Here's your chance to learn a live language." He said, "Oh, Russian's too difficult. I don't think I want to do that." I said, "Why don't you just come with me the first night?" He did, and the teacher, whose name was Donat Ivanovski, turned out to be a real charmer and an extraordinarily gifted teacher. In the end, we both went on and on with Russian. We ended up by hiring Donat to give us private lessons.

Donat stopped teaching the class. He became a simultaneous translator for the United Nations in Geneva. In fact, he did this for the rest of his life. He died last year. He was a great, great teacher--and a dear friend.

There was another slightly more advanced course at MPC in the evenings, taught by another Russian whose full-time job was teaching at the Defense Language School. We agitated for more advanced classes in Russian, and happily the college continued with classes in Russian.

#### Exchange Program Trip, 1963

Roll: Finally Scott said, "There must be some way of getting somebody to pay for a trip to Russia, now that we know some Russian." He had a friend from his London days--the two years when he was studying for his advanced degree in ophthalmology at Moorfields Hospital in London. He lived in a Quaker digs, where one of his great friends was a Nigerian named Abu Shama--nice black man, who by this time was the President of the World Health Organization in Switzerland. His sidekick, who had also been in London studying something else,

I think was the president of Nigeria. Margaret later knew the presidential one.

Abu Shama, in answer to Scott's query about how could he get to Russia without paying for it himself, said, "You should write to your WHO representative in the Department of Health" or whatever it was called then. This was in about 1960. That man turned out to be a Dr. Watts. So we wrote to Dr. Watts. His answer was, "You write me a prospectus of the places you would like to visit."

Meanwhile we had begun subscribing to a Russian journal of ophthalmology. We plucked out of that the information that there were various institutes of ophthalmology and hospitals of ophthalmology attached to medical schools. They were in Moscow, Leningrad, Odessa, Kiev, and I don't know where else.

We wrote a proposal in which we put them all in, with proposed stays in each one. Watts very courteously responded that what we proposed was rather too much. Why didn't we simplify a little?

In the meantime, two of my anthropology friends gave me the names of three anthropologists in Moscow to get in touch with. I remember Chet Chard said, "One of them will answer, and I don't know which one." I initiated the correspondence. It turned out later that M.M. Levin had died; Georgi Debetz never answered my letter--but I got to know him very well later. V.P. Yakimov was the one who did answer. We established a very friendly interchange. We sent him a Christmas card with a picture of our two desert tortoises eating lettuce. He wrote back in Russian that he loved lizards and tortoises and all such things.

We wrote then a simplified request asking to visit an ophthalmic hospital in Moscow, an institute in Kiev, and a very famous institute in Odessa--The Filatov Institute. I think this went on for two or three years.

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Roll: Our simplified proposal was accepted. Scott was given a six-month exchange arranged between the Soviet Ministry of Health and the U.S. Department of Public Health. Our health service paid our air fare, and the Soviet Ministry of Health gave us a monthly stipend. Seems to me it was 500 rubles. In any case, it was enough for both of us to live on.

So in September 1963 we departed for the Soviet Union, the first time I had ever been out of the continental United States,

at age fifty-three. We were met by a representative of the Ministry of Health in Moscow, who was an Armenian. We were established in the Hotel Ukraine, which is a big, "Stalin Gothic" structure on the Moscow River. I immediately went down and to make the acquaintance of Yakimov, who was the director of the institute of Anthropology right off of Red Square. I learned that the first director of the Institute was an uncle of the ballerina Maya Plisetskya.

Yakimov and his associates were exceedingly friendly and welcoming. In fact, they gave me a desk while we were in Moscow. Scott was over at the eye institute.

After we had been in Moscow two months or so we went to Odessa, to the Filatov Institute. We were in Odessa when Kennedy was assassinated. Two or three days later we had a message from the American Embassy in Moscow that we must return to Moscow. We soon learned that all of the exchanges like ours were terminated.

Hughes: What was the thinking?

Roll: It turned out that it wasn't the assassination of Kennedy that led to this decision. It was because a man, named Barghoorn, was picked up by the KGB as an American spy. He was a professor from Yale. I have always suspected he was guilty. Anyway, there was such an uproar that the State Department terminated everybody except the people who were there for a whole year.

So here we were with somebody living in our house in Carmel until the end of January, and no more Russia. We had planned on being there for Lena's [Godina] and Slava's [Shestakov] wedding. Lena had become my interpreter and very dear friend. The first week we were in Moscow, Yakimov said, "I have a graduate student who speaks English. I know she will be delighted to show you around Moscow." It interfered with my learning Russian, but it was a delightful way to learn about Moscow.

We went from Moscow to Italy, and spent six weeks in Rome. We spent some time in England, and came home on schedule.

#### The Institute of Anthropology, University of Moscow

Hughes: What had you been doing in the Institute of Anthropology?

Roll: They were interested in somatotype. There were a lot of interestingly skeptical people too, who knew a lot about Sheldon.

I was invited to talk to various symposia. There were people in physical education as well as anthropology who were interested in somatotype. They had taken some rather poor somatotype photographs of athletes, both male and female. There were football players and basketball players and others. They brought all the photographs and data, which I rated. Lindsay and I have published the ratings. I should add everyone was very kind and very hospitable.

Hughes: When I talked with Lena, she spoke of "a golden age of anthropology."<sup>5</sup> Had that passed by the time you arrived?

Roll: I don't really know what she meant by that. When I went there, Yakimov was the director of the institute. I don't know that anything dire has happened to anthropology since. I suppose Lena was talking about a special quality Yakimov brought to the institute. Yakimov came from Leningrad, and was a pretty aristocratic man. The other anthropologists always referred to him as "our perfect gentleman," which he was. He was a suave and lovely person. He also had a beautiful tenor voice.

The Institute of Anthropology is part of the University of Moscow but it is downtown. The university is up in what they call the Lenin Hills, which is out a considerable distance from the center of the city. The university campus, where Lena got her undergraduate degree, was the center of all undergraduate work. A lot of the graduate work went on in the downtown institute, but there was also graduate work going on up on the main campus.

One of the most prominent people on the main campus was a very elderly man who lived to be well into his nineties named Y.Y. Roginskii. He was also a charming and gracious man. Levin, who had been a great favorite, was rather a young anthropologist. He had died the previous year, so I never knew a lot about him. Another very well-known anthropologist was Debetz. Debetz was a professor at the Institute of Ethnology. Oh, and then there was a very famous, forensic anthropologist--M.M. Gerasimov.

Gerasimov was a paleontologist but he also was a forensic anthropologist. It's the same name as the man who's often a spokesman for the Soviets these days. Gerasimov was a marvelous, rotund, charming man. I had a long talk with Gerasimov and took photographs of him. He told me a wonderful story. I asked him which one of his forensic adventures pleased him most. He told me about finding the grave and identifying the skeleton of a Persian poet who died a thousand years ago.

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<sup>5</sup>Interview with Lena Godina, San Francisco, California, October 26, 1989.



I had the privilege of knowing these highly respected and admired older anthropologists. I suppose Lena was thinking of them when she referred to this as the "golden age." I suppose she was alluding to the emptiness after Yakimov got severe high blood pressure, then strokes, and died of a stroke when he was still in his sixties. He should have lived a lot longer. Meanwhile, Roginskii died. Debetz had died several years earlier of flu.

Lena was unhappy when a young anthropologist named Schtetsov--and don't ask me to spell it--became the director of the institute. He is not a very attractive character. He and Lena certainly don't get along, and the people that I knew didn't like him. I suppose that is a source of unhappiness. I don't know what has happened to the department on the main campus of the university. Lena may be exaggerating. Her golden age idea seems rather a romantic interpretation.

As I said, Debetz is gone from the Institute of Ethnology, but there is a man named Valerie Alekseyev who is an academician. I should add that for an anthropologist to be a full-fledged member of the Academy of Sciences in the Soviet Union is very rare. Valerie is a man of great charm. I know him very well indeed. His wife is on the staff of the institute. Alekseyev has great influence. He comes to this country quite often and he does excellent work (Alekseyev died in 1992). So I don't view the state of anthropology as gloomily as Lena does. She was a pampered, greatly approved of, very bright graduate student.

Hughes: Of whom?

Roll: Of everybody at the institute. Her formal mentor was a protégé of Debetz's, a woman named Natasha Miklashevskaya. Lena is disappointed in Miklashevskaya because she doesn't think that she is a rigidly disciplined scientist. When people evaluate things from the inside, I think they tend to overlook a lot. I, from a greater distance, am more tolerant. However, I wouldn't be so sure that nothing's happening in anthropology in the Soviet Union.

Hughes: She also said something to the effect that when you say anthropology in the USSR, you really are talking about physical anthropology.

Roll: Well, that's well-known. That's true all over Europe.

Hughes: Where does cultural anthropology fit in?

Roll: Their cultural anthropology is musicology, things like studies of folk music and dance. Of course there's a considerable amount of good archaeology. All of European anthropology includes

paleontology and archaeology, which is ancient culture. Primatology is certainly now part of European and African anthropology. One of the original concepts of anthropology was the anthropometry of skulls. And I'd say ethnology is after all a form of cultural anthropology. They're very much interested in the ethnology of all of their different nationalities. I don't know why Lena makes such a fuss about that.

The Russians don't have the kinds of ancient or primitive culture anthropology that we do. Ours really started with American Indians, and then [Franz] Boas became more universal. Boas was equally competent as a physical anthropologist and as a cultural anthropologist.

The British have social anthropology because they ran out of primitives. I can't get excited about it, even though many anthropologists get very excited about it.

Hughes: At the institute in Moscow, you were dealing with what in this country would be called physical anthropology.

Roll: They were entirely concentrated on evolutionary anthropology, which meant paleontology and the origins of man. And there was a lot of interest in human physique. Some anthropologists were interested in Kretschmerian-type work. They were also interested in blood groups. Anthropology covers so much and overlaps with so many other fields that it's a little difficult to make proper demarcations.

Hughes: You said earlier that there had been some somatotyping done in Russia before you arrived. Was it based on the Sheldon model?

Roll: I don't really know what they were doing with it, to tell you the truth. I don't think much. I think they thought it was an interesting idea and had got as far as doing some photographs. They did a great many studies that involved anthropometry. Their publications included materials that were based on anthropometry. Also there was some biochemistry and genetics. There were quite a lot of growth studies. I used to subscribe to Voprosi Antropologii, their anthropology journal, where I found some extremely interesting material.

For example, there was a study that included no somatotype photographs, or any attempt to somatotype, but included data on children that could be compared with somatotype studies of children. A large sample of children in Norilsk, which is an Arctic city, sixty degrees north latitude. Norilsk is a real city. I've forgotten its exact population but it is several hundred thousand, I think. They compared those children with the

children of reindeer farmers in villages nearby, and in turn compared both with a study of children in Leningrad. It was fascinating because the skinfold measurements, the maturation curves, the statures of the reindeer farmers' children were identical to the Manus children. The Norilsk children in the city were identical to Leningrad and were identical to all we know about American city dwellers--the same relatively early maturation, the same advanced ages of menarche. Fascinating. The idea that the equatorial people are the early maturers is a figment of somebody's imagination. So there's a lot of interesting material.

Lena and Miklashevskaya have gone on many field trips to Kirghiz, in the Pamir Mountains. They have done some wonderful studies of the children at high altitudes, who are of a different ethnic derivation from the Russian Russians. So there's a lot going on.

Hughes: How actively were you teaching somatotype on that first trip?

Roll: Oh, not very. I wasn't really teaching it so much as just rating their material.

Hughes: How fluent was your Russian?

Roll: It was not all that fluent. I certainly found abstract conversation exceedingly difficult. My Russian still is good enough so that I can ask my way anywhere, I know how to order things in restaurants, I can wheedle things out of hotels. I have a large vocabulary, but I have lost fluency in putting sentences together. I understand the grammar. I can translate with a dictionary without any hesitation. But I never was really fluent in conversational Russian.

Hughes: But you were using it, were you not?

Roll: Oh yes. It made a great difference, I'm sure, for both Scott and me to be able to speak as much Russian as we did. It always makes people feel better if you take the trouble to know their language. And we understood a lot more about what was going on, and nobody bothered us. We often walked from the hotel down to the middle of Moscow without anybody questioning us. We went to restaurants on our own.

Hughes: You had free rein to do what you wanted?

Roll: Nobody ever paid any attention to us at all. We were there on exchange visas, which are slightly different from the tourist visas. We were not told to do or not to do anything. People who

go as tourists are not really able to do anything on their own. Well, they'd get lost. If you went out of the hotel and tried to find your way to the Pushkin Museum, God knows where you'd end up. So perforce you must hire an Intourist guide.

The Intourist guides are not very well paid. They are very hard worked. They are instructed to appear at the hotel at, let's say, 9:15 a.m., and they are supposed to check back in with their charges at three o'clock or 3:30. Remember, they have been talking English all day. They are not that good at English. They are exhausted. And they are fed up to here and beyond with tourists who say, "Why are the bricks falling down on that building?" Some of them get a little hostile about it, so the American tourist comes back and says, "Those bloody Russians. They were rude," and so on and so on. If I were an Intourist guide, I would probably commit mayhem.

I have always said, for heaven's sake, if you don't know any Russian, stay out of Russia. You're not going to enjoy it. It's going to be miserable. You are going to feel that you're being pushed around, and you are being pushed around. One of the reasons they don't let you loose is they know you'll get lost. And the food is horrible because most people are on tours and most groups sit down at tables for forty people.

Hughes: You didn't find the food horrible?

Roll: Most of it leaves a lot to be desired but we happened to like dark bread and caviar, and we lived on it. Caviar's a lot harder to come by now than it was when we went there. We used to get a kilo of caviar for about twenty dollars. That's more than two pounds! Now you can't get caviar except at hard currency stores and in four-ounce containers that cost eight or ten dollars. But caviar costs a lot more than that here.

#### International Congress of Anthropological and Ethnological Sciences, 1964

Hughes: The International Congress of Anthropology was the next year?

Roll: My friends at the institute said, "There's going to be the big international congress here next year. Why don't you come and give a paper on somatotype?" Before we were done with it, Lena had agreed to translate it into Russian for me, and I would read it in Russian.

Then Margaret decided she would like to go to that congress. Before I finished making all the arrangements, Scott said, "It won't cost you any more to go from Moscow on around the world than it would to go round trip from here to Moscow." So in the end I was in Russia for about three weeks, I guess. I did go all the way around the world. That's when I went to India the first time, by myself. Scott stayed home and ran the office. Margaret and Rhoda Metraux also came to the Congress. I piloted Margaret around the restaurants and so on. She was very impressed that I could find my way around in Russian. We had a fine time.

It was a very interesting Congress. I read my paper in Russian, not as fluently as I would have liked to.

Hughes: And it was on somatotype?

Roll: It was on somatotype. I have a copy of the English translation of it somewhere or other.<sup>48</sup>

Hughes: Did Margaret give a paper?

Roll: I suppose she did. I don't remember.

Hughes: Did you meet people who were important to you later?

Roll: Oh, yes. I met all of the Russian anthropologists whom I had not met the previous year, and I met people like G.H.R. von Koenigswald, who was famous for Java Man, Joe Weiner from England, who wrote a now out-of-print book about the Piltdown hoax, Shiro Kondo from Japan. Oh, and that was the year I also met A.P. Okladnikov, who was another lovely Russian. He was at the Institute of Anthropology, in Novasibirsk, which is out in the middle of Siberia. It's an academic center that's a cluster of learned institutions in a rather new city called Novasibirsk.

I introduced Bill Laughlin to Okladnikov. Later they collaborated on work in the Aleutians and Siberia. One year Bill would go to Siberia with Okladnikov, and the next year Okladnikov would come to the Aleutians with Bill. A lot of interesting things grew out of all this.

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<sup>48</sup>Barbara H. Heath. Need for modification of somatotyping methodology. (abstract). VII International Congress of Anthropological and Ethnological Sciences, Moscow, August 3-10, 1964.

Hughes: Do the Russians keep up with what is happening in physical anthropology outside Russia?

Roll: Yes, indeed. They are very well informed. They have all of our journals and most of the books in their libraries. They don't own them personally, but they are available, and they are very well informed on what's going on everywhere. They have lots of symposia-type discussion of what So-and-so is doing and So-and-so thinks. It was fascinating at the congress in 1964. Here were the Russian anthropologists, who are interested in the evolution of man and the fossil material, T. Dale Stewart of the United States, Phillip Tobias from Johannesburg, von Koenigswald now in Germany, Joe Weiner from England.

I remember them up in the big hall at the University, all arguing about a fossil tooth that had been found in a drugstore in Hong Kong. And there was all of the fossil material that the Russians had. Some of them had brought casts with them. They argued with each other hammer and tongs. They were wonderful. Very interesting papers came out of it, but it was fascinating to hear and to see these people all together, crowded around this table with all these things on it.

The international community of science is really marvelous. Since the second war I think there's been a lot of very good interchange. The congresses are, I think, every four years, because the next one was in Japan in '68. I think the next one was India in '72 and I did not go to that.

Hughes: What was your impression of the facilities and the equipment in anthropology?

Roll: The equipment in any science in Russia is poor, and they know it. And they know what it is that they would like. It isn't that they don't know that it exists. It's simply that they don't have it.

#### Soviet Ophthalmology

Roll: This was even more evident in the hospitals. But they do awfully good work. I don't know anything about the general hospitals. Probably it's rather grim. Specialized institutes and hospitals for eye diseases and surgery have excellent care--I can't imagine that the care would be any better anywhere. The facilities are not all that great, but the loving care of both the doctors and nurses with their patients is impressive. And their treatment of children is fantastic. They rightly use as little anesthesia as

possible. The way they cuddle those children and talk them into letting them do muscle surgery without anesthesia is fantastic!

Hughes: Are they being cautious about anesthesia for health reasons?

Roll: Yes.

Hughes: Not for money?

Roll: No, they think that anesthesia is dangerous.

Hughes: Scott was impressed with the level of ophthalmology?

Roll: Yes, he was. Their equipment, their instruments are not as elegant as ours. For instance, they were the first to use cryoextraction, which meant putting a little metal tip in dry ice and opening a slit in the upper rim of the iris and exposing the lens, and simply touching it. The whole lens freezes, and they just pull it out.

Hughes: That was being done when you were there?

Roll: It was being done, and Scott brought back one of the little instruments. Within six months the Americans were doing it. Of course, he couldn't do it with that instrument because this was considered experimental. But before he died he was doing cryoextraction. I really haven't quizzed Jeff White about it, but I have the impression they still extract the lens the same way, but now they insert a plastic lens.

Hughes: They weren't using the intraocular lens then?

Roll: Not that I know of. The pioneering surgery for corneal transplants was done in Odessa. Also, they had very sophisticated surgery for retinal detachment. Filatov was considered the father of corneal transplant surgery.

Hughes: You were probably there too early for radial keratotomy.

Roll: For myopia?

Hughes: Yes. Radial keratotomy was a Russian development.

Roll: Yes, and I don't think much of it.

Hughes: You don't remember hearing anything about it?

Roll: Yes, we heard a little about it but it hadn't reached the proportions it had with the man that had ten beds in a row. I

really don't approve of that surgery. I just think it's highly unlikely that it is going to work. There's too much danger of over- or undercorrection. Scott certainly never approved of it. And I know a lot of people at present who don't, too.

Visiting Scholar, Institute of Anthropology, Moscow  
University, 1967

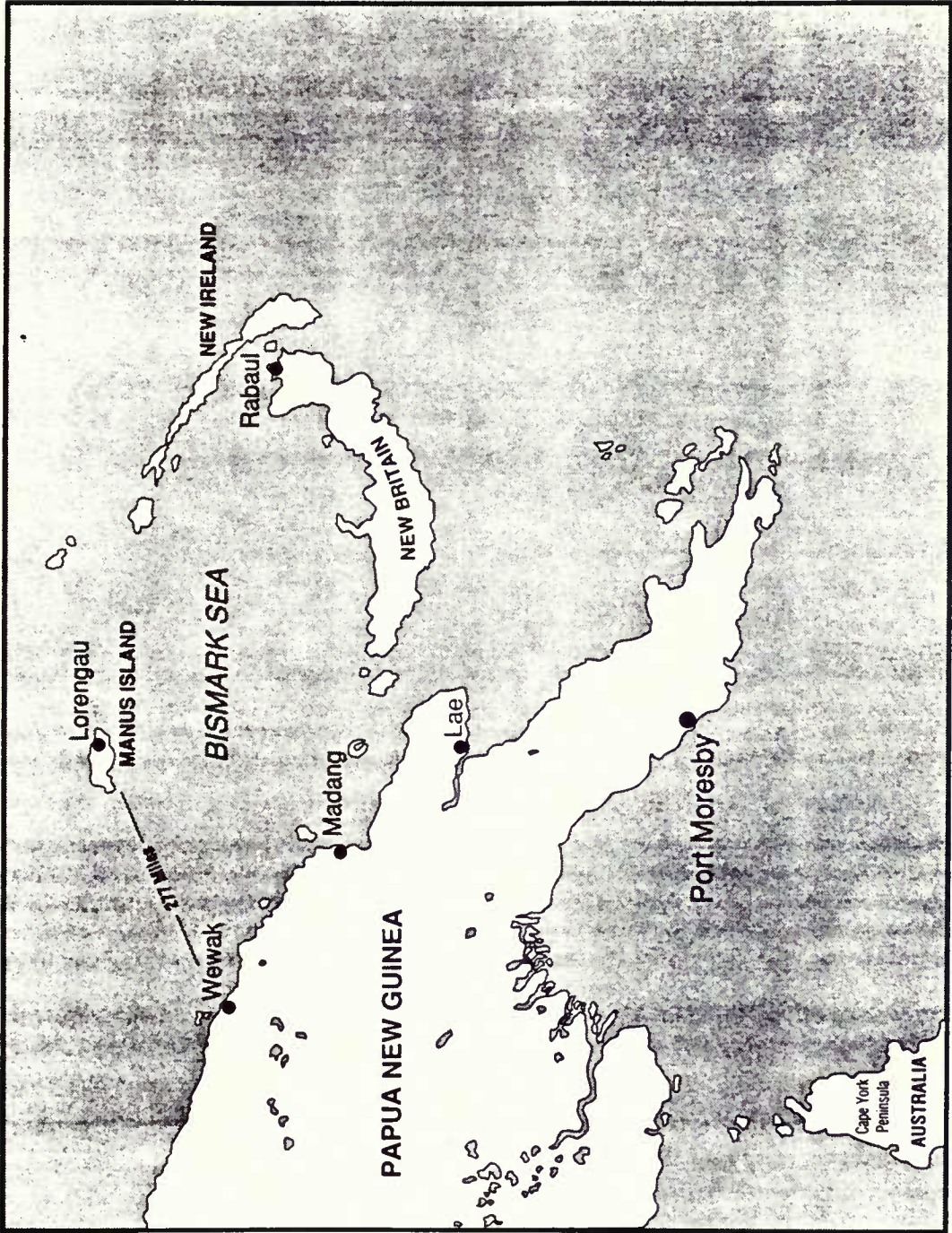
Hughes: I have one last question about Russia. You were a visiting scholar when you were at the Institute of Anthropology in 1967.

Roll: Well, it was just more of the same. I had another exchange, and this time we went to Kiev as well as Odessa and Moscow. I think there were two different places in Moscow that we visited on the second visit, and the same institutes in Odessa and Kiev. I arranged to write a long article on somatotype method in two parts, which Lindsay and I co-authored. I guess I wrote the first half and then Lindsay and I wrote the second together. They were long articles published in Voprosi Anthropologii, which is the Russian journal of anthropology.

Hughes: Anything more about your Russian ventures?

Roll: Well, I continued my connections with the people in Moscow. I didn't go back again until 1975. That time I went back to make a mold of the Tesik Tash fossil skull, which I've told you about.







## IV RESEARCH IN PERE VILLAGE, MANUS PROVINCE, PAPUA NEW GUINEA

[Interview 7: November 24, 1990]##

Associations with Margaret Mead

## First Encounter

Hughes: I think the place to begin is with your first encounter with Margaret Mead.

Roll: My first encounter with Margaret probably was in 1948, an encounter of which I think she was unaware. It was a very interesting dinner symposium, one of several per year, that were given at the then Viking Fund, which now is the Wenner-Gren Foundation for Anthropological Research. I do not remember who the speaker was on that occasion, but the Viking Fund invited people like Julian Huxley. They were wonderful occasions. As I remember the foundation invited about sixty. I have a list somewhere of those present at the symposia. Margaret was one of them, and Sheldon also went to them. As a matter of fact, he took me there. I don't know how he happened to be sufficiently in Fejos' good graces.

It was an event at which cocktails came first, then the speaker, and finally an elegant dinner. The Viking Fund was situated in one of the old, beautiful mansions between Fifth and Madison on 71st Street, back to back with the Frick Museum, which had been the Fricks' beautiful mansion. This was a most pleasant setting. I must say I enjoyed going to those gatherings.

Margaret later reminded me that that was where she met Sheldon for the first time. Gregory [Bateson] had met Sheldon

before, probably through Aldous Huxley. Gregory was very taken with Sheldon, and Margaret, in her inimitable way, when she did not like someone, managed to convey an unattractive portrait. She said he looked much more like a traveling salesman than a scientist. In all fairness, I don't think it was a very good description of him--but so much for reactions. She didn't like him, but she was interested in the whole idea of somatotype.

Hughes: And had been well before she met Sheldon?

Roll: Well, she knew about his work, and of course Gregory knew quite a little about it.

Hughes: Speaking of Gregory, didn't I read that he actually had tried to do something with Kretschmer's scheme at one stage?

Roll: I don't think so. Human physique was not his thing. He was a good biologist, but I don't think he was particularly interested in human variation. His father [William Bateson] had repeated Mendel's experiment. This would cause Gregory to be interested in anything that followed along in the general lines of that kind of biological research.

Hughes: How do you explain Margaret's interest, a cultural anthropologist interested in physical anthropology?

Roll: I can't explain it, but I can speculate, and my speculation is that she was always a little bit self-conscious about her lack of training in the biological sciences. I think being married to Gregory had heightened her awareness of this lack. She did say to me at some point something about wishing that she had had more biology. She certainly lacked good biological training. She must have had to have some kind of quasi-scientific courses to get a degree from Barnard, I would think, even as an undergraduate. She leaned heavily on psychology, and she was very much interested in psychoanalysis, and I think she was analyzed.

In any case, I don't remember seeing Margaret again for four or five years. I do remember I was standing there when Sheldon was presented to her. He said, "Oh, so this is little Margaret Mead." [laughs]

Hughes: I bet that went over well.

Roll: That may be why she retaliated in the way she did. I remember Margaret had a small hat on. Wearing a hat to a dinner always seemed to me unnecessary, and even a little odd.

Hughes: Was there any discussion, at that point, of her interest in somatotypes?

Roll: Not that I know of. I don't think she and Sheldon had any conversation; they just met each other. And she, of course, knew something about him. That was not a meeting at which somatotype was discussed.

### Second Encounter

Roll: It must have been in the spring of 1953 that I really met Margaret for the first time. I quite often visited Dr. Frances Ilg in New Haven on weekends. I had helped Frances establish a somatotype study of the children in what was known as the Gesell Institute.

Hughes: Which you have talked about.

Roll: Well, I think the weekend I met Margaret at Frances Ilg's house must have been the spring before she went out to Manus for her return after twenty-five years.

Scott [Heath] and I--we were not married yet--went together to Frances Ilg's for the weekend. Margaret was there the afternoon we arrived at Frances's house. Frances said, "We are looking at the photographs from Bali." They were not somatotype photographs. They were some of the photographs that Margaret and Gregory had taken in Bali of Balinese children.

Frances said, "Now, Barbara knows all about somatotypes, and she will probably have some interesting comments to make about the bodies of these children."

So the three of us sat down together and looked at the photographs. Margaret was very much interested in Frances Ilg's reactions to body movement and the body attitudes of people toward each other in different contexts. She was organizing, I think, the book she wrote with Frances McGregor. I don't think this was for the book she and Gregory did together about Bali. She wanted to get some of Frances Ilg's reactions to the children. I didn't realize at the time, but I imagine that she was thinking about her forthcoming trip to New Guinea.

### Mead's Interest in Somatotyping

Roll: I didn't have any further contact with her until 1958, which seems like quite a gap from 1953. Margaret had decided--and I don't know whether meeting me had anything to do with it or not--to include somatotypes on her return trip to Pere and Manus. I have no special reason to think it did. She had also met James Tanner. In fact, Tanner spent a few days at hers and Rhoda's [Metraux] house where they were then living, in Greenwich Village. So Margaret knew about his interest in somatotype. He told her about the equipment that he had had built for his work in London. I suppose all this was in connection with the Institute of Child Health where he worked.

Margaret asked him to put together the instruments and equipment that would be needed to take somatotype photographs and measurements of the population of Pere Village, which he did. Tanner was very efficient about things like that. She also arranged with him to have the film printed after Ted [Schwartz] had taken the photographs. In the course of the conversation or sometime later, Jim said that I would be a good person to have somatotype the photographs and analyze the data.

Hughes: Why didn't he do that himself?

Roll: Well, he also rated the photographs and did some analyses of the data. I suppose he thought it would be a good idea. Now I am guessing--or I am not remembering the details--but I assume, because Jim and I talked a lot about the importance of having more than one person do the ratings, he thought I would be the obvious choice.

Hughes: So he was going to do it and then--

Roll: Yes, and he did do it. And, by then, I was living out here in Carmel. Jim quite often sent me series of somatotype photographs and asked me to rate them. Our ratings correlated very highly, very highly indeed. Jim and I had had a thoroughly delightful collaboration until he suggested I get involved in the Manus series.

In any case, Margaret wrote to me and said, "I am sending to you somatotype photographs of the Manus series, and I look forward with great interest to your reactions to them." I received all this material in due time. I also found out somehow or other--maybe she mentioned it--that she was going to be on the West Coast shortly thereafter on a spring lecture tour that she took every year. She had a great friend named Margaret Brown in Los Angeles

who scheduled lectures. She billed herself as "Artists' Manager." Margaret [Mead] enjoyed coming to the West Coast every year. Her lectures were usually at community colleges. She also gave them at places like San Francisco State, but not on the big university campuses.

Hughes: Why was that?

Roll: I don't know. Maybe this woman didn't have access to those campuses.

When she was coming here to talk at Monterey Peninsula College, I wrote and said, "Why don't you stay with us, and we can discuss these photographs?" From that time on she came here several times a year. She became very much interested in what I was doing with somatotype. She was at least as kind to me as she was to Tanner.

Hughes: She saw some potential.

Roll: I suppose she saw some potential, yes. Margaret used to have a wonderful, offhand phrase which went something like, "He or she is a gifted amateur." She never let one forget that one was an amateur. Gifted, though. With promise.

Hughes: And that's what you were.

Roll: And I think that's what I "were." [laughs]

So, the photographs were taken, and I have all the correspondence, both with Margaret and with Tanner, about these somatotype photographs of the people of Pere Village. The essence of it was, "I have never seen anything like this anywhere. The men are so much more mesomorphic than any other men I have ever seen."

Hughes: How does this fit in chronologically with your revamping of somatotype methodology?

Roll: I was right in the middle of revamping it, and I had already arrived at the conclusion that there had to be major modifications, one of which was opening up the scale. I had not seen the mesomorphs that went off the scale. What I had seen was the endomorphs that went beyond the boundaries.

Hughes: So this was just reinforcing what you already believed?

Roll: I already had roughed out the idea. Also, by the way, this was before Lindsay came into the picture. So here were people who in

mesomorphy were more than seven. "Ah! ha!" said I, "the scale really does need dealing with." I rated them accordingly and sent the ratings to Tanner. Tanner said, "I realize these look very mesomorphic, but I don't think we can justify opening up the scale on that account."

Hughes: Why was he reluctant?

Roll: I attribute it to mixed motives. I may be wrong. Tanner decided for some reason that he should stick with the way Sheldon had set up the system. He had ideas in the back of his head that show up in his correspondence. He and one of his confreres were going to devise a statistical procedure for arriving at a somatotype without going through all of the nonsense and expense of the photographs. Perhaps he actually intended to continue to take photographs. In any case he never did get around to the problem of the rating scale.

Hughes: What about the anthropometric data?

Roll: The odd thing about Tanner was that he took all these beautiful anthropometric measurements and never interpreted them in relationship to somatotype.

Hughes: Why?

Roll: I don't know. Well, perhaps because he was going by looking at the photograph and adhering to Sheldon's scale, and relying on the height/cube-root-of-weight ratio alone. Of course once anyone like me gets a notion that there's another way of doing something, there is no way to understand how anyone else could see it otherwise. I am mystified that what I was doing didn't seem rational to him. As you know, Tanner and I had a long correspondence in which I kept him abreast of my "great discoveries," without a lot of appreciation from him. He kept telling me, no, that was all very interesting, but---

Meanwhile, Margaret said, "We must write a paper about this," a paper that would include Tanner and Schwartz as well as herself and me. In the end, Ted threw his hands up. I don't know how he handled it; I've forgotten. Tanner opted out. In consequence, the paper never got written. I'm sure I still have a draft of it somewhere. Tanner wrote a draft, and I wrote a draft.

Hughes: There's a publication that did come out, isn't there?



Roll: I wrote a paper about it for the Tokyo Congress of Anthropology.<sup>49</sup>

Meanwhile, Margaret and I had established a really close friendship, which became closer because she visited us here often. Also, I saw her in New York when I went East. I stayed with her on various occasions. About 1965, two things happened. One was that she decided it was time to send me out to New Guinea. The other was that she thought I should teach.

#### Somatotype Studies in Pere Village

Roll: Margaret expected me to come out and join her in 1965, at which point I unhandily had to have a hysterectomy, which delayed things for a while. Margaret was deeply disappointed, and had to come home from Pere. But Ted Schwartz was out there. He had been up in the highlands and elsewhere, and had come back to the village, where he would be for some months. He agreed to take on the responsibility of my being there for a couple of weeks. Ted and I were to take somatotype photographs and measurements of everybody in the village, which would be a repetition of what he had done in 1953.

Hughes: Using the same methodology?

Roll: Using the same methodology. In fact, the same instruments. As it turned out, the correspondence in measurements of people who hadn't changed materially was really remarkable. I am talking about people who were photographed and measured twelve years earlier. It was marvelous.

Hughes: Had he essentially measured the whole village?

Roll: He had measured the whole village in '53.

Hughes: That's when Lenora Foerstel was there?

Roll: Lenora had helped him with that. He was in charge and was the one that was responsible for the meticulous data collecting. Ted, although he is a cultural anthropologist, had some courses in physical anthropology, as all cultural anthropologists must.

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<sup>49</sup>Barbara H. Heath, Margaret Mead, and Theodore Schwartz. A somatotype study of a melanesian population. *Proceeds of the VIII International Congress of Anthropological and Ethnological Sciences, Tokyo and Kyoto, 1968*, vol. 1, 9-11.

Among other things, he had learned anthropometry from Wilton Krogman, a very well-known physical anthropologist who had two specialties: child growth and forensic anthropology.

##

Roll: Krogman was one of the people who used to appear on the then very well-known television show that emanated from Philadelphia. It was called, "What in the World?" It consisted of Bill Krogman, Carl Coon, Froelich Rainey, Alfred Kidder, and Loren Eisley. Carl Coon and Bill Krogman were two people I had the privilege of knowing fairly well. They made a remarkably popular television show of identifying objects related to various aspects of anthropology. The show was a great favorite on the East Coast.

It was interesting that Bill Krogman was related to the project in this indirect fashion, because he was one of the few people I knew who had known Sheldon well at the University of Chicago. Krogman, was a dear and lovely person, who died about two years ago.

Margaret sent me out to Manus and Pere in February 1966. She was very much pleased with the material we brought back. The film we used was sent to Tanner, just as it was in 1953. Later Margaret wished we could get the negatives back from him. She did not live to see it done, but eventually I got them.

Hughes: Why was he so slow about it?

Roll: I don't know why. They really were Margaret's. She had paid for all of the materials and the instruments.

Actually, I think those two particular expeditions were, at least in part, funded by the Rockefeller Foundation. I'd have to look it up. And part of the funds came out of her own pocket or, rather, out of the Institute for Intercultural Studies, which was the small foundation that she had set up.

Hughes: To support research she was interested in?

Roll: To support her work and to support that of her students and the students that she was sponsoring.

Hughes: It was based on private donations?

Roll: No, the foundation consisted entirely of her lecture fees and royalties. Plus, Ruth Benedict left her whole estate to it. And later an anthropologist named Jane Belo left her estate to it. She and her husband, who was Colin McPhee, were connected with a

study in Bali. I think that they were in Bali at the same time that Margaret and Gregory were.

### Impressions of Mead

Roll: Essentially, my relationship with Margaret was a warm and lasting friendship. It's true that an important part of it was her interest in my anthropological work, and particularly as it was related to her own interests.

I enjoyed hearing her talk about many subjects not really related to anthropology. I remember having a conversation with her about whether novelists wrote about things that they created out of their own heads or out of their own experience. Her favorite of all were the novels of Thomas Hardy. She said that he made them up. Now, whether this is true or not, I have no idea. At the time I was sure that she knew what she was talking about. Margaret was an exciting person to talk to, and there was always a huge variety of topics that she was interested in.

Hughes: Could you talk to her as an equal, or was it more "listening to Margaret?"

Roll: Margaret was also a good listener. Very good. She had a very interesting--what I suppose is lovingly called a "complex"-- personality. But she could be astonishingly self-effacing. And also, parenthetically, she could be remarkably thoughtful and have very sensitive insights. She realized that Scott was dying to go out to New Guinea. So she invited Scott to go with her and me in 1971.

The insight to which I started to refer was that when we got there, she said to me, "I think my share will be--" whatever hundreds of dollars it was, to run the household in the village. She said, "I'll just make out a check to Scott." Instead of having me do it, she had an appreciation for the man's ego. To me, this was a very important part of her character. It's one that I think has been neglected.

Hughes: Because she was known as a feminist?

Roll: I think there was more to it than that. I've heard many people speak of her as being bossy. I don't think Margaret was all that bossy. She was impatient. Her mind worked so much faster than anybody else's that she was at the conclusion while the speaker was back struggling over the syntax.

To me, the important thing was the aspects of her character which I don't hear people talking about very much.

Hughes: Bring those out, please.

Roll: Another part of her character, which is touched on but I think without a full appreciation of its significance, is that, not unnaturally, she had many godchildren. She kept close track of them. She also established a kind of a cohesion among her relatives, who were numerous. There were many nieces and nephews and great-nieces and -nephews. At Christmas time, as is often reported, she sent out hundreds and hundreds of Christmas cards, for which she had an elaborate file of all the names and addresses.

Hughes: That she wrote personal notes on?

Roll: She personally signed each one, in the years I knew her, which were 1958 to '78. I knew her well the last twenty years of her life. As I remember it, all her Christmas cards were photographs, usually a personal photograph--photographs of Vanni Kassarian, her only grandchild; sometimes of herself.

I think this aspect of her behavior at Christmas is well known. I have not heard as much about the trouble she took to have a present for each child she regarded as close.

Hughes: That took some doing.

Roll: It took some doing, all right. More than once when she was here, probably in November, I took her to downtown Carmel to shop. I racked my brain to think of promising shops. She always found something for every child. She knew precisely what was appropriate--and she knew the age of each child. She didn't have to consult a list. The children were filed in her head. Whenever anyone in the family or a close connection had a baby, she always bought some kind of a mobile. She said the most important thing was to stimulate the infant to see and reach. She was extremely interested in small children and babies, and how to teach them to make the most of their senses.

Hughes: And of course her own child, Cathy [Mary Catherine Bateson], was probably the best-studied child in the country.

Roll: Oh, yes. Which she says herself.

She was incredibly thoughtful of the children of close friends who suffered some kind of emotional difficulties. I remember an instance concerning a girl in her twenties who lived

in Marin County [California]. Margaret was worried about her because she was having a problem--perhaps it was a marital problem. It was that order of difficulty. She said, "I must see her. I'm going to call her up. Will it be all right if she comes down and arrives at X hour, and I will talk to her for two and a half hours, and then can we have tea?"

Hughes: But with the idea of helping her out?

Roll: I gathered she wanted to let her talk it out, and give her some helpful reassurance. It was a purely supportive role. But it took considerable time. Remember, she had to know the girl's address and her telephone number. She had to phone her from here. She also had to think out what her schedule would be. She couldn't have been here more than three days.

The obvious importance the girl attached to a talk with Margaret is another aspect. Think how long it took her to drive from Marin. I never hear about this side of Margaret. I never read about it. I think it is a terribly important facet of her character and values.

Margaret showed remarkable thoughtfulness of me. She was incredible when Scott died. She sent me a cable from Africa. She wrote a remarkable letter. She said, "I think you'd better come East as soon as you can, and we'll sit down and talk about what you're going to do now." Scott died in July and she insisted that I come back early in September, actually the day after she returned from Africa and Eastern Europe.

Hughes: Of what year?

Roll: 1974. Margaret lived with Rhoda Metraux in a large apartment in a big apartment house on Central Park West in New York City. It really was a condominium, which Rhoda owned. They split the monthly upkeep costs. It was about a block from the American Museum of Natural History.

There was a small hotel, the Alden, between that apartment house and the museum. It was a largely residential hotel. If Rhoda was at home, I stayed at the hotel. Rhoda was there on this occasion. Margaret not only made a reservation at the hotel, she went over and inspected the room. She left a bouquet of roses and part of a bottle of Scotch, with a note that said, "To make things easier." From my point of view, this is unusual thoughtfulness. I'm afraid I don't do things like that. The day you get Scotch and roses from me, will be the day! Margaret always had that sort of thing on her mind along with all of her other concerns.

Hughes: She must have been able to compartmentalize.

Roll: She was indeed able to do that. The thing that impressed me was that she was never so abstracted that things went by her.

Another incident that made a great impression on me involved her two-year old granddaughter, Vanni. I must have been staying at the Alden again, but I was in the apartment at the time. The apartment was large, with a long, wide foyer that ran the length of it. And of course, the books in that place were unbelievable. Every wall was floor to ceiling in books.

Margaret had set up a card table and typewriter out in the foyer, at the far end of it. The living room was at the other end. I had another typewriter set up near the living room. I was copying something for her. Margaret's typewriting was electrifying. She typed much faster than I have ever been able to. Her typos were numerous and wonderful. As a result, somebody had to tidy up her text. That was my mission on that particular day.

Hughes: She had a definite task for you?

Roll: Yes, she did. I said, "What can I do?" and she said, "Here, you can retype this."

Hughes: So she always had some things she wanted done?

Roll: Oh, yes, she knew what she wanted me to do, all right. And she knew that I didn't have anything urgent.

Hughes: How much was she available when you came to visit?

Roll: Oh, a lot. I went along with her wherever she went. I went over to her office, where I either did something that I was interested in, or did something useful to her. We had lunch together in the museum lunchroom. Sometimes Harry Shapiro joined us. He was the great physical anthropologist, chairman of the department, Margaret's boss, actually. Sometimes Colin Turnbull joined us. He wrote wonderful books about the Kalahari Desert. And others. I went to the Columbia University campus with her at nights, to her classes.

Hughes: Was her relationship amicable with these people in the museum?

Roll: Yes. Many of them were her great friends. I suppose there was some underlying discontent. She wasn't elevated to be a full curator until toward the end of her career, and she was never a

full professor on the university faculty--she was an adjunct professor.

#### Mead as Mother and Grandmother

Roll: I want to go back to the end of the incident I started to tell you above. On this particular occasion, Vanni and Cathy [Bateson], her daughter and granddaughter, were visiting her. Vanni was about two years old. Marie Eichelberger was there, Margaret's great friend who ran the Institute of Intercultural Studies, which was in a room in the American Museum of Natural History in New York, and looked after the bookkeeping for Margaret. She had been a college friend and had retired from a responsible job in the social work hierarchy in the state of New York. On that afternoon she was there to look out for Vanni.

In the living room there was a table just the right height for a two-year-old kid. It was between three and four feet long and oval, and it had a glass top that slid. When Marie wasn't looking, and neither was I, and Margaret was about fifty feet away typing, Vanni somehow dislodged that glass. It came down on the bare floor with the damndest crash you ever heard. Well, it terrified Vanni, and she was screaming. Margaret was there before Marie and I could even stand up. Her only concern was to assure Vanni that it was all right and she wasn't going to be blamed for it. The speed with which she changed gears left me gaping.

Hughes: Remarkable. And older than either of you, wasn't she?

Roll: Well, no. Marie was older than Margaret, seven years older than I.

These are the things that nobody has bothered to pay attention to. I think they're terribly important. I realize she could be outrageous sometimes.

Hughes: How was she with her daughter and her grand-daughter?

Roll: I think she was very good. There are a few things Cathy is critical about, but I don't think that Cathy thinks that she was a neglectful mother. I think sometimes Cathy gets tired of being Margaret Mead's daughter instead of being Catherine Bateson. I don't blame her for that. Catherine Bateson is a very different kind of person, and a very important one.

I don't think you could improve upon the way Margaret handled Vanni. Her relationship with Vanni was great. She certainly was devoted to both Vanni and Cathy. I think sometimes Cathy and she did not understand each other very well. Of course, Cathy is more like her father.

Hughes: What does that mean? She has a more scientific mind?

Roll: Oh, yes. Also, Cathy is a much sweeter person than Margaret was. Cathy is rather detached. She doesn't particularly want to run the world. Cathy loves to write, and she cares a lot about the things that she is interested in, but I don't think she expects to change the way the world works. That's not a very good description of Cathy; there's a lot more to her than that. I'm just saying she and Margaret certainly were not very much alike.

There is a typo story that delights me. I think this typo shows up in her notes in 1953. There was a man in the village whose name was Samol. He was known as Samol the carpenter because he did some odd jobs that involved hammering and sawing. I don't imagine he was much of a carpenter, but Margaret referred to him as "Samol the carpenter." Her typo was "Samol the crapenter." [laughter] Which always charmed me. Incidentally, I don't think she would have thought that was funny. It was not her kind of humor.

Another incident that amused me was Margaret's repeated error in writing Scott's full name. Margaret always addressed everything to "Dr. and Mrs. F. Scott Heath" instead of Scott A. Heath. I used to call attention to the error through her secretaries. I even corrected it on her address books. It turned up again and again and again. One day I got to thinking about it. I thought, "By God, she's done that because of F. Scott Fitzgerald." I mentioned it to Margaret. She just looked at me blankly.

Hughes: Barb, tell me something about how Margaret worked on a day-to-day basis in the field.

Roll: The way she worked in the field was pretty much the way she worked everywhere. I was going to comment on her attitude about how one spends a day. Margaret took accomplishing various tasks very seriously. She was very conscious of never wasting any time. Time was very valuable to her, and she treated it accordingly. When she was at home, if she were in her own apartment, usually the task involved typing. She was writing constantly. It might be letters; it might be a paper; it might be part of her book. She wrote innumerable articles and pieces for every imaginable kind of publication. She wrote so much that one of her



acquaintances put together a bibliography which itself fills a small book, which I have. That was one of the last things she gave to us. She inscribed it, "to make things easier."

Hughes: I remember Dr. Schwartz commenting that she was remarkably good at keeping her field notes up to date.<sup>50</sup>

Roll: Oh, yes. All right, now let's go to what she was like in the field. My experience with her was that she never interfered or even really questioned how I was setting up my day. She assumed I knew what I was doing, or else she thought it was futile to do anything about it if I wasn't doing it properly.

Hughes: Do you think she generally acted that way with her associates?

Roll: I don't think they thought so. But I suspect it was because they went at it wrong. I think they probably asked her questions and were somewhat dependent, which would evoke her considerable impatience. She did not like sycophantic behavior at all. As you well know, there's not much of that in my nature--so Margaret and I didn't have that problem.

I think that I saw Margaret rather differently from the way her other friends saw her. I regarded friendship with her as one of the great privileges in my life, but I also saw her as a person with the expected amount of clay in her feet, which didn't disturb me in the least. I never felt the necessity for being critical of things that I didn't agree with.

Hughes: Was that because she was a cultural anthropologist and you were a physical anthropologist?

#### Mead and Religion###

Roll: It wasn't so much cultural anthropology per se. Margaret had many interests that were not of enormous moment to me. For example, Margaret was brought up by parents who said they were atheists, whatever that meant. She went to a Quaker school as a young child. I remember her saying that she was not particularly enamored of the Quaker approach. She told me that when she was about twelve--and I have no reason not to believe it--she decided

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<sup>50</sup>Interview with Theodore Schwartz, February 16, 1990.

that she liked the ritual of the Episcopal church. So, on her own, she joined the Episcopal church. She became an Episcopalian, and was a lifelong practicing Episcopalian.

On the other hand, I have been with her on Sundays here and in New York, and I never knew her to go to church. Maybe she thought it was more important to do whatever we had on the agenda. I certainly never went to church. I don't think Margaret and I ever had a religious discussion.

Hughes: Was religion ever a theme of her lectures?

Roll: No, I don't think so. Well, she may have given lectures in which that was a theme. None that I ever heard. I don't know of any of her writing that deals with religious themes. There may be some. I have not read all of Margaret. I haven't even read all of her anthropology.

She was involved with the National Council of Churches or whatever it is. She went to congresses that had to do with councils of churches. In fact, I think it was some kind of a church conclave where she was in Africa when Scott died. It didn't interest me, and I never discussed it with her. She alluded to various things that had to do with the church; she alluded to Cathy's wedding.

Hughes: Which was a church wedding?

Roll: Which was a church wedding, and I'm trying to think whether it was an Armenian Christian church or the Episcopal church. I think it was Episcopal. She liked church ritual; she was very much interested in the way the people in Manus treated religion. She always went to their dreadful church services, which bored me. I went enough to know what they were up to.

Hughes: Those were Catholic, were they not?

Roll: No, the people had been Catholic, and they left the Catholic church and then one of their own founded his own church.

Hughes: Paliau's church.

Roll: Yes, Paliau's church, which is something else. And now they're all involved with an evangelical Lutheran church. They're all being very churchy, which Ted and I find very depressing.

### Mead in Pere Village

Roll: There were these aspects of Margaret which went right by me. However, in the field, she spent a large part of her day writing. In 1968, I think it was, she was writing Blackberry Winter, which is her autobiography.<sup>51</sup>

Hughes: Yes, you gave it to me. Why did she go to Pere to write?

Roll: Well, she was doing other things at the same time. What I should add is that she was sitting at the typewriter, but stopped for whatever interruptions occurred. Her house was in the center of the village, on what we called the village square, so people were coming not only by, but into the house constantly. She always stopped whatever she was doing to talk to whomever it was that came in.

When I became interested in their genealogies, she found that marvelous because it gave a good topic of conversation. Margaret was very much amused and delighted with all that came out when I asked questions like, "Now tell me who your mother was. Was she your "mama-tru," really your mother, or your adopted mother," and so on. She wrote in her notes something to the effect that this was a wonderful way of dealing with the whole relationship with the village, hers and mine together; that I was keeping up with what was going on in the village and gave her a chance to participate in the conversation without being bored to death. She found long encounters with these people very dull. She had some favorites whom she used to question at length. JK was, of course, one that she always loved to talk to. She liked talking to Pokenau. She found Paliau dull.

In her later visits to the village, she was absorbing what was going on without doing deep research. For example, each time the important men of the village came into the house, they'd say, "What are we going to do about the school boys who cannot go on to high school because there isn't room for them and they're not smart enough?" The dropouts. They called them "school-leavers." She loved to have meetings with the village, organized by the chief men of the village, meetings everyone came to. They were large gatherings in which they discussed what to do about the teenage boys who were too young to be on their own but too old to be just running about. Margaret had all kinds of suggestions for them.

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<sup>51</sup>Margaret Mead. Blackberry Winter. My Earlier Years. New York: Simon and Schuster, 1972.

In 1975 the men reported to her that they were going to have a meeting about taxes. The taxes were eight kinas a year, as I remember. The older men said they didn't see why they should pay any taxes anymore. So Margaret took the tack that they were being irresponsible, that one of the privileges of old age was to help everybody and to give a good example. There was always something for discussion.

Hughes: So they considered her part of the village?

Roll: They considered her part of the village, and they loved to have these discussions with her. Now, whether anything ever really came of all this, I am hard put to say. The point was that they regarded her as an important part of their lives. They knew that she wrote about them, and by the time her life was over it translated into something like, "Margaret made us the most famous village in Papua New Guinea. We are more famous than anybody else. We are the most important village because of that." And they liked the idea of making all of us part of the village. The biggest clan was the one that adopted all of us because the house that we lived in was in the part of the village where Pere clan was. So we became incorporated in the village mythology, and Margaret, because she was the first and the most important, most of all.

In other words she used her time there to do some writing that she'd brought with her. She also used it to think about what was going on in the village. Also, each time she was there, she wrote what was called a "letter from the field." She and Rhoda both wrote letters from the field. She wrote them from other places too. Just before she died, she published a book which I think you probably have too, called Letters from the Field.<sup>52</sup> She wrote the last letter from the field in 1975. I typed it for her. Incidentally, it was published almost verbatim. It's hardly changed at all. In it she comments on what I was doing and what was going on.

Hughes: I was wondering, because of the high exposure that she and other anthropologists had given to Pere Village, were you ever aware of an effort by the villagers to behave in ways that they would interpret as being what you wanted to see?

Roll: That's a very good and difficult question. Margaret talked about how they change us and we change them. She was very conscious of

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<sup>52</sup>Margaret Mead. Letters from the Field: 1925-1975. New York: Harper and Row, 1977.

that, as all of us are. However, I don't recall having a sense of their trying to change in order to please us.

Margaret did not give them the same kinds of things that we have. Our role has been a little different. I'm trying to think how to put it. It's a hard picture to do accurately.

From the time of the Second World War, the people of Manus certainly (and I presume of all New Guinea, but I'm not very well informed on this) were very eager to be like Americans and to adopt the advantages of our culture, which they thought they saw in our army. They thought of Margaret as the symbol of the first contact with things about America which they found desirable. I suppose sooner or later their culture would have changed in the direction of Western ways whether the Americans had been there or not. All we did was to hasten it. The main point is that they liked what they perceived to be typically American.

They did not like the Germans much when they were there, which was up to the First World War. They tolerated the Australians who administered the whole territory of Papua New Guinea after the First World War. The Australians, I think, were rather good administrators, but not affectionate administrators. The Australians--most of the ones I met--were not very sympathetic figures. I was horrified when I first went out there. They didn't know the names of the trees; they couldn't tell me anything about either the flora or the fauna. I couldn't imagine why people whose careers were in what we would think of as foreign service could take so little interest in their surroundings. There was a government department in Australia that oversaw the colonial administration of the territory.

When I first went to New Guinea, the New Guineans referred to the Australians as "Master" and "Misses." And I sometimes heard Australians say "Boy!" to someone who might be the number one man in his clan. So far as I know, the Australians did not mistreat the people of New Guinea. They simply did not think of them as equals, or even as potential equals.

The American soldiers came to Manus and hired Manus men--actually, they were day laborers, and were paid very little. The Manus men didn't realize that. The soldiers were very generous in handing out cigarettes and candy and parts of their K rations. The natives thought they were wonderful.

It is also interesting that when they saw the black American soldiers, they seemed to them to be on an equal footing with the white ones--which, of course, they weren't at all. The people of Manus obviously could not perceive the distinctions in power and

privilege in the American military. So they thought that everything American was wonderful.

Margaret's return after twenty-five years confirmed their notion that Americans were wonderful. She brought a few of her young associates. She did not have flocks of graduate students. Ted Schwartz was there in toto longer than anyone else, first with one wife and then another. Ted has brought three or four graduate students. We have sponsored two graduate students out there.

Let's see, we were talking about Margaret's day and the effect she, and we, had on the people of Manus.

#### Mead's Control of Research in Pere Village<sup>53</sup>

Hughes: Did Margaret control, if that's the term, which anthropologists worked in Pere Village?

Roll: That's an interesting idea. I suppose in effect she did, but it wasn't an obvious kind of control. Certainly, theoretically, anybody who wanted to could go to the village and set up a research project--assuming that the village was receptive.

I think that there are a kind of unwritten rules among all academic and scientific people who go on field trips. They stay out of each other's field sites. There are many reasons. For one thing it wouldn't be very good form to invade the field just for the sake of presenting a different viewpoint.

Margaret has written somewhere among her notes that she preferred teamwork. She talked about going out to Manus with Reo Fortune. Later she went to Bali with Gregory [Bateson].

In the early 1950s, after she and Gregory were divorced, she said, "Obviously I'm not going to have a husband to work with, but I think it would be better to have more than one person." So she set about looking for a graduate student who was trained to use the more up-to-date field equipment like tape recorders and movie cameras--and just plain cameras. Margaret was very much interested in photography as a tool of anthropology, so she was looking for someone who was good at photography.

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<sup>53</sup>This and the following section were moved for better topicality from their original position later in the transcripts.

Hughes: Now, had she developed that interest on her own, or was that a product of being married to Gregory Bateson?

Roll: I think that it probably was something that she and Gregory developed together. But Margaret never looked upon herself as much of a technician with photography. Actually, she was a good photographer and she did take some of the photographs in Manus. And they were excellent. But she preferred to have someone else do the photography. She liked to have things recorded on film--on both stills and movies. I think that her interest in photography led her to be interested in somatotype photographs too. She realized that photographic records are important. She was interested in the idea of any archives that told part of the historical record. And she was quite right. She grasped the importance of any kind of photographs that were properly labeled and identified, with a record of the circumstances written down.

So, in 1953, she found Ted. He was finishing up his graduate work at the University of Pennsylvania. He went with Margaret to do the fieldwork for his dissertation. Then, later, when she realized that maybe I could contribute something that had to do with the somatotype studies, she asked me to go out.

Other than Margaret, the only people who went to Pere--I think I alluded to this earlier--were Ted's two successive wives, and two or three graduate students of Ted's who went with him. Then I went to Pere, alone and with Scott, and beginning in 1975, annually, with Fred. Fred and I have sponsored two graduate students, who have based their dissertations on fieldwork in Pere Village.

Other than that, no one has really spent any time in Pere, except for the short times the film crews have come to Pere to do documentaries on Margaret. For example, the team that worked with Margaret on Margaret Mead's New Guinea Journal, which was done in the mid-1960s--1964, I think. Then there was the British television team. Central Television in London did a series of films on six famous anthropologists, one of whom was Margaret. A good part of the one about Margaret was done in Pere when we were there.

Other than that it's been a pretty closed corporation. I doubt that anyone would really want to go out to Pere and invade that field on their own. Unless there is a connection with either Ted or me, I think no one is likely to do it.

One of the interesting things about Margaret was her sense of the relatedness of generations back and forward in time. She

talked a great deal about continuity. And I think this probably does come out in books or other writings about her.

I remember her saying that she considered it extremely important that she had a grandmother living in the house when she was growing up. It happened to be her father's mother. I don't remember her saying much about her other three grandparents, but she looked up to that grandmother and attributed much of the important early influence upon her to her grandmother's presence.

Hughes: More so than to her parents?

Roll: I think so, yes. Her parents had a kind of a rocky marriage, and she looked to her grandmother for real stability. I remember once she told me that her father was threatening to run away with another woman. I don't remember exactly how it worked out, but the idea was that her grandmother was going to hold the family together no matter what, that she was the glue that kept it together.

She was devoted to her mother and father also, and to her brother and sisters. She was loyal to her brother, with whom I think she had not a great deal in common. She kept track of all of her blood relatives. She also kept track of all of her friends and their descendants.

Then in her fieldwork in Manus--she did not return to the other fields--she talked to the people in Pere about continuity. I can remember her saying, "If you don't know where your roots are, you won't know who you are and you won't know how to become what you should be." I don't think I had ever thought about it much in any formulated sense, so it made a great impression on me. That concept has influenced our behavior toward the people of the village and our sense of owing to them the continuity that Margaret had talked about.

After all, suddenly she's gone. Then what do they have? That will, in due time, lead to discussing Frank Johnston's role.

#### Access to Mead's Data

Hughes: How possessive was she of her data?

Roll: That's a nice question. Margaret was the soul of generosity about her data. She gave copies of anything that was done in the field with her to her colleagues. When we were in the field together,



she did her daily notes and diaries with carbons, and she always gave me a copy. She made copies of all of her diaries available to me. I could have had the ones from fields other than Manus if I'd wanted, I suppose. I have in my possession, I think, all of the diaries and field notes from Manus that Margaret ever wrote. Which is remarkable. She was totally generous about that sort of thing, and expected all of us in turn to submit duplicates of everything to her. The Library of Congress has all of the notes that I produced in Manus. They also have all of the letters I ever wrote to Margaret. She was a marvelous record keeper.

Hughes: Would she be that free with people who weren't directly in her group?

Roll: No, I don't think so. But she expected her archives to be available to everyone eventually. I think that she tried not to think about it too hard. I don't really know how it was decided that certain of her papers still are not accessible. Probably Cathy has made that decision--because there are some people still alive, who may be sensitive about the contents of letters, in particular.

Hughes: But they will be available eventually?

Roll: Eventually they will be available, I think. I think it's to be twenty-five years or so after her death. No, she was very generous. This has had a profound influence on my attitude about data. I've made all of my materials available to anyone who has worked with me. Ted has just about everything that I ever did that he wanted. I have massive amounts of Ted's field notes.

Hughes: That's the way it should be, of course.

Roll: Which is the way it should be. Now I am duplicating everything that I have to do with Manus for the University of Pennsylvania department of anthropology. It looks as if that's where the work on the Manus material is going to go forward.

Hughes: You've said a little bit about Margaret's dealings with the villagers themselves. Is there any more to say on that subject?

Roll: I think that probably the best approach to her dealings with the villagers would be to refer any reader to her 1953 field notes in the Library of Congress, in which in great detail she tells about every interview she had. It's abundantly clear that some people she liked very much; she says so in so many words. Some she didn't like. Some she regarded as stupid. Some she regarded as obnoxious.

Hughes: And she says so?

Roll: And she says so. She says so more than once, just in daily comments; she says so in generalizing in her publications. She says, "Some people I like and some I dislike." But she was genuinely fond of many of them, and this applied to both men and women.

This is more obvious when she was in the village for many months at a time. I think you have to read her notes and diaries to appreciate how deep her feelings went, to appreciate how fond of them she was. She never gave any sign to them of her critical, personal reactions. She was always the soul of courtesy. And they think of her as being very communicative. I knew that some people bored her, but this wasn't a feeling she betrayed.

### Pere Village

Roll: I'm sure that the way the people of Pere Village feel about the United States, the way they feel about us, is linked closely with their attitude toward Margaret and their feeling that she was very important. This is translated into a feeling that I suppose we could generalize. At present, when both JK and Margaret are dead, they are thinking back, are wistful that both of them are gone, and connect them with each other. I have some very interesting letters from the young, educated people who try to express, to articulate their feelings. The essence of it is that JK was the link between them and Margaret, and in turn that the two of them are their links with the past, with the outside world, and with their future. That Margaret and JK are the past is the bridge to their attitudes toward the future.

The thing that is so interesting to me is that their imaginations work precisely the way yours and mine would, that they are creatively thinking about their history, the symbolic aspects in their history--and furthermore they know they're doing it. They don't have a big enough vocabulary to deal with the abstractions, but they know that they are building a partly philosophical, partly mythological, legendary series of stories that represent the influence of Margaret and JK. It may be that they have overdone their role, but they symbolize some things that they want to remember.

### The Role of Women

Hughes: How do they, and did they, deal with the fact that Margaret Mead was a woman?

Roll: In what way?

Hughes: Well, all the chiefs that you've mentioned in the village were men. You haven't talked about any women.

Roll: That's true, and that is unjust to the people. Earlier, Margaret writes a lot about a woman named Isoli. Isoli was the sister of the chief in 1928. Margaret regarded her as a very powerful part of the community. The women often were soothsayers. In their pagan religion, the women did have a part. The roles of brother and sister are very important. I haven't really sat down to think about the way their pagan religion worked, but women were more important than they seemed. The men were the ones who learned Pidgin. The young males are better at English than most of the females, but there are some exceptions.

Hughes: Because they receive more education?

Roll: Well, not necessarily. It was a patrilineal culture originally. The males certainly were politically the important people in their lives, which doesn't mean that they were all that important in the next layer down.

Hughes: So it didn't come as a great shock to them to have an important white personage be a woman?

Roll: I don't think so. I never thought about it myself. It never occurred to me that there was anything unusual about her being a woman instead of a man. It did not make her talk to the women any more. Nor me. But in part, for me, it's because the older women were far more difficult to understand. Their Pidgin was not as easy to understand--their articulation was not as good.

There is a woman in the village now, Teresia Nyalawen, who is certainly one of the most powerful people in the village. The old chief's daughter, Taliye, was a very important woman in the village. Some of the women wield an enormous amount of power. For example, traditionally, the women, in certain relationships which had to do with their brothers, could put curses on people. To this day, there are strong traces of their old religious beliefs.

In the case of Teresia, she put a curse on a nephew. I can't remember what it was she wanted--if I ever knew. He came back to the village instead of going on working at a very good job up in the highlands. He has a university education. If I recall correctly, his return had to do with her putting a curse on one of his children, who might be very sick or even die if he didn't return to the village.

Hughes: And this is taken very seriously?

Roll: It's taken very seriously to this day. Several educated young people have come back to the village because of that kind of threat. Some of them defy it. Some of them seem to have gone to the next stage.

I think, Ted [Schwartz] would certainly have opinions about this. I'm not sure I would agree with him, but also I don't know that much about it. I do know that they often profess one thing and believe another--I'll put it that way.

#### Somatotyping the Villagers

Hughes: Maybe the next step is to describe what exactly you were doing when you were somatotyping in the village, how you went about it.

Roll: Are you sure you want to know? [laughs]

Hughes: Now, we know about the methodology and the somatotype photographs. How did you get people to cooperate with you? What was the system for collecting the people that you wanted to study?

Roll: My system was just simply to go to the village and say, "Now, this is what I am going to do. I'd like to start with the children in grade one and then gradually work up."

Hughes: Did they come to you, or did you go to the school?

Roll: I went to the school. Actually, I had two different approaches, one dictated by Ted Schwartz's approach, and the other by my own. The first time I went to Pere, when Ted organized it for me, he simply announced to them that they were all going to have somatotype photographs taken. "I'm going to take photographs of all of you and measure you," is what it amounted to. So it was set up. The adults remembered thirteen years before, when they had done the same thing. JK and his age-mates simply went out and recruited everybody, and said, "You will come now."

Hughes: And there was no question?

Roll: There was no question. They all gathered. We had a tentlike structure so that there was a white background to be photographed against. We had all of the equipment--the scale to weigh them, the stadiometer to measure their statures, and calipers to measure their skinfolds and their bone diameters and so on.

Hughes: Did you have help?

Roll: Ted and I did it all together. I'm not sure I remember all this accurately. I had set up data sheets with the serial numbers. Lomot, JK's daughter, did the actual handwriting. Incidentally, all the young people who have been to school have remarkably good handwriting.

Hughes: Were you doing the photography?

Roll: I was doing some of the photography and some of the posing and measuring. Ted and I took turns. He posed the men and I posed the women.

Hughes: These were nude photographs, weren't they?

Roll: Not in 1966. They had loincloths.

Hughes: But they had been in 1953.

Roll: In 1953 they were nude. After the photographs were all taken, a priest got into the act and raised hell--a little too late fortunately. After that, Ted was very self-conscious and was afraid to repeat the 1953 procedures. I think if I had been on my own, I would have just gone right ahead.

Hughes: And it would have been all right?

Roll: I would have started with the smallest kids and just proceeded upward to the adults.

We had almost everyone in the village, in both 1953 and in 1966. In 1953, Patusi and Pere were separate villages, only a mile or so apart. By 1966 they were a combined village. There were a little over two hundred subjects in the first series. Ted and I did almost four hundred. I decided that it would be a little beyond my scope to try to re-photograph everybody every three or four years, so I established a modified longitudinal study. In 1968 I photographed all the children and any adults whom I had not photographed and measured before.

In 1968 I was there by myself and did all the children. JK helped me, and so did various friends of his. By then, I had decided to do only the children. I started with grade one and did them without any clothes. By the time I got up to grade six they were getting a little bit jumpy about the clothing aspect of it. I said, "You're not going to let those little children outdo you, are you?" So in the end, I got them all.

In 1971 Scott helped me. He was there for the whole summer.

Hughes: And the school went up through eighth grade?

Roll: It went up to sixth grade, about age 13. It amounted to about the same thing as our eighth grade.

#### Familial Patterns###

Roll: When I returned in 1968, I realized that I was so interested in the people that I wanted to know about them as individuals, and wanted to know their family histories and who belonged to what family, what all the various relationships were. I understood a little bit about their kinship system. While I was still very much interested in their somatotypes, I also realized that there were going to be some interesting things to do with knowing who they were and how they were related. I began to think about the possibility of doing genetic research. I wondered whether there were some genetic errors that might be due to inbreeding.

Hughes: Did you see a link between the genealogies and the somatotyping?

Roll: Oh, yes. Well, I saw that it would be interesting to try, at least, to see if there was some evidence of genetic patterns--familial patterns. I don't think that, grossly, there are. It takes a much finer perception than just a gross somatotype for that. Which really brings us up to the very present. I am hoping that Joan Schall Murray will go on with somatotyping them and will look at some of the finer discriminations that are inherent in a somatotype.

Hughes: What do you mean when you say "finer discriminations of somatotyping?"

Roll: Well, about the easiest way to describe it without total obfuscation is to talk a little bit about dysplasia.

Dysplasia is what it really is about. You know and I know, and all people who are even moderately observant know that if you watch a mother and a daughter walking down the street together, you can tell whether you are looking at a mother and a daughter nine times out of ten by the way their legs are shaped and the way they move and their general contours. There's no mistaking it. Of course, sometimes one is wrong because the daughter might fortunately, or unfortunately, look more like her father.  
[laughs]

Margaret Mead, her daughter Catherine, and her grand-daughter Vanni, from the rear, just looking at their legs, clearly are put together the same way. Margaret was eight inches shorter than Cathy, but the way the legs are put together is the same. And at age two years, I could see Vanni's leg structure was going in the same direction. This is a dysplasia that we're looking at. The rest of the bodies might be different in a lot of different ways. Cathy's and Margaret's hands were totally unlike. So the gross somatotype is not going to tell you much. Their somatotypes are very different.

Vanni in turn has some characteristics that are like her Armenian father. It's not difficult to see it, but to describe it scientifically is going to be more difficult. Even though I am sharply aware of the familial similarities in somatotype in Manus, I know we have not so far developed a scientific vocabulary for describing apparent genetic likenesses.

There are several people in the village who have characteristics which they share with one another that are clearly genetic. There is one family, for example, that includes a father who had one brown and one blue eye and was obviously prematurely white. He had three or four children. One of them had the brown and the blue eye, and at age ten was developing a white streak down the middle of his hair. He also was a mute. I learned what I was looking at from my friend Phillip Tobias. When I showed him color photographs of the two with the odd eyes, he said, "Oh, that's Klein-Waardenburg syndrome." I said, "Do tell." He said, "That's very fascinating, because I have a graduate student who's done a study of Klein-Waardenburg syndrome among the Bantus in South Africa. The reason that this is so interesting is that it shows that that syndrome has existed in the human species a very long time, because there is no known direct relationship between the people of Papua New Guinea and the people of South Africa."

When I became interested in Klein-Waardenburg syndrome, I also did some research on the family trees of six other children in the village who were mutes. None of them had the brown and blue eye, and they were too young to have the white streak in

their hair. However, all of them had the same ancestry, in which there was a history of early graying of the hair.

There are other conditions that can be identified in the phenotype--that is, that can be identified visually and would show up in somatotype photographs. Somatotyping has the virtue of calling attention to these things. I learn a great deal about people from their somatotype photographs; I see much that I would miss in face to face encounters--and, of course, vice versa.

Of course I also realized that I needed to record the genealogies. In a sense, I'm a village gossip at heart; I love knowing who is who and why. For example, I was fascinated when I found out that if two men were working together on a canoe, there always was a kinship explanation. When I began to wonder why two men in particular were working together, I would be likely to find out they were first cousins. Often they were also the kind of first cousin known as cross-cousins. That means the mother of one and the father of the other were siblings. Cross-cousinship is an important relationship among the Manus people.

Eventually I realized that if half-a-dozen people were chosen by JK to go on a canoe trip, there was a kinship reason for whom he chose. I nailed him down one day, and said, "Now JK, I can understand this one. That boy is your half-sister's son. This one is your first cousin's son. But what's that one doing there?" He had an obscure kinship tie that made it reasonable to invite that boy who was the right age with the others to join the crew. I could find nothing that happens in the village that doesn't have a kinship explanation. This fascinates me.

#### More on Somatotype

Hughes: We alluded to the paper that was presented at the Congress of Anthropological and Ethnological Sciences. It's called "A Somatotype Study of a Melanesian Population." Is there any more to be said about that?

Roll: That paper was a general report on the somatotype characteristics of the total population, both male and female and adult and child. Up until recently, that plus a paper on the somatypes of the children which I wrote for the American Journal of Physical



Anthropology<sup>54</sup> was about all that came out in publication on the somatotype studies in Pere. There will be more. Rick Shoup included a lot of somatotype material in his dissertation.

Hughes: What was the title?

Roll: "Growth and Aging in the Manus of Pere Village, Manus Province, Papua New Guinea: A Mixed Longitudinal and Secular Perspective." Sounds riveting, doesn't it!

Hughes: We talked about the study that reinforced your ideas that the scale had to be opened. Apparently you used two samples of Japanese university students and an Eskimo series, and several series of English, American, and New Zealand subjects. Was that connected with Lindsay and Tanner?

Roll: Some of the data were Lindsay's, some of them were Tanner's.

Hughes: What about the Eskimos?

Roll: That came from the University of Oregon Medical School.

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Roll: Except for the Manus data, all the collections of somatotype data are samples of a population. The Pere Village Manus somatotype photographs are a population, because they include virtually the whole village. And that is unique. In fact, I don't know of any other somatotype studies that have ever been done that are of a total group of people.

The samples did include a few Eskimos, two different Japanese series, one in Japan at a women's university or college. In fact, I found out recently that it was the elite women's college in Tokyo. And a sample of boys, a hundred each of University of Hawaii male and female students whose parents were born in Japan, who themselves were born in Honolulu or somewhere in Hawaii. There are a few Brazilian soldiers; there are Channel swimmers; there are British Empire Game athletes; there are Olympic Game athletes. There are still more than that.

If I haven't already talked about it, there are three samples of somatotypes which confirmed my notion that we needed an open

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<sup>54</sup>Barbara H. Heath and J.E. Lindsay Carter. Growth and somatotype patterns of Manus children, Territory of Papua and New Guinea: Application of a modified somatotype method to the study of growth patterns. American Journal of Physical Anthropology 1971, 35:49-67.

scale. The first one was a study of obese women which went beyond the scale in endomorphy. The second one was the Manus males which went out of the scale of seven in mesomorphy. And the third one was a study of Nilotic negroes of the Sudan, which Derek Roberts, the British anthropologist and geneticist, studied.

I met him at the congress in Tokyo. He and another anthropologist had published two different papers about this study of the Nilotes. So I knew they existed. When I met him I said, "I would love to see those photographs." He said, "Any time you wish. Please come and somatotype the whole thing. I'd love to have you do it." Before I did go to Newcastle, he did send me a small sample of them, enough to show me that the Nilotes went out of the ballpark in ectomorphy. Derek is of further interest because he did his study of the Nilotes in 1948, which was the same year I started in on somatotyping, which is sort of interesting. For an even more important reason, he was the one who suggested that Cambridge Press publish the somatotype book. He is a dear man. I am beholden to him for those kinds of things.

#### Views on Feminism

Hughes: You said in a 1974 conversation with Margaret, the one for which I have a transcript, and I quote: "The terribly important thing about the somatotypes of women is that dominant components are rare. It is even rarer for mesomorphy to be the dominant component." Is there any particular reason that that's significant?

Roll: The reason that women have the kind of somatotype distributions they do is that Sheldon decided to use the same scale, the same criteria, for rating males and females.

Incidentally, I certainly went along with this aspect of somatotype rating when I came to thinking about the ways in which somatotype methodology should be modified. After all, we have a species that has two sexes. One of our objectives is to compare males to females. I shouldn't think we'd want to use different scales that make the women sound as if they were something they are not, in comparison with men. So, if we are comparing them with each other, we can see obvious differences.

The principle difference is that they are less mesomorphic and more endomorphic. On the average, this is true. Probably ectomorphy is about the same. Consequently, if they are less mesomorphic, there are no extremes in mesomorphy. Since they are

more endomorphic, they are less likely to be as extremely ectomorphic as the males, because endomorphy and ectomorphy are inversely related.

So it seems to me significant and important to use the same scale for males and females. It's true that this is a theoretical problem. It's arbitrary, of course. Somatotype is simply a way of describing what a human physique looks like. There are lots of ways; this is one of them.

Hughes: But it also underlines the inescapable fact that males and females, at least as two collectives, are not equal.

Roll: They're not equal. They're different.

Hughes: Because certainly the amount of musculature that one has is going to determine how one approaches life.

Roll: Of course it does. And the way the whole physiology works. This is the reason that I'm in great conflict about equal rights. I certainly agree that if a woman and a man are equally qualified and are accomplishing the same goals equally, they certainly should be paid the same. But that does not mean that a woman would make a better president. And this is where I think the argument goes awry. If you're going to talk about women's rights simply from the point of view that they're being underpaid, that's fine. But I fail to see how it extends to every aspect of male and female enterprise. There are many, many occupations at which I think men are much better than women.

Hughes: Including being president?

Roll: I suspect so. I suspect that the hormonal, biochemical, biological life of the majority of women contraindicates a lot of things. It may be that post-menopausal women can cope with the presidency. An interesting idea. I am dubious about pre-menopausal women.

Hughes: You're talking about the cyclic nature of female biology.

Roll: I'm talking about cyclic instability. I think it's unrealistic not to at least give it some thought.

Hughes: Probably some of the feminists would argue that one reason that we don't have a lot of women in positions of power at the governmental level, the corporate level, the academic level, whatever level you like, is that the role models and the opportunities aren't there.

Roll: I know they do. From the point of view of argument, that sounds perfectly reasonable. I'm just skeptical. I think there are some kinds of occupations for which a woman's temperament may be better than a man's.

Hughes: How has it been to be a woman in what you have tried to do in your career?

Roll: I have never found it interfered in the least. Margaret said something about my doing something that was wasting time. I said, "Margaret, I like to be married." And not only that, but if it's a matter of a choice between career and my husband, my husband comes first. I'm perfectly comfortable with that. I do not regard it as a great waste of life or a terrible frustration. I did not get a Ph.D. because I wanted to be married to Scott.

Hughes: On the other hand, you left one husband because he did not support you in your career efforts.

Roll: Because he didn't support me in learning something. I didn't have a career in mind. I just wanted to get educated.

Hughes: Yes, but if he wouldn't support you in learning more, he'd be unlikely to support you in a career.

Roll: Well, yes. However, he had a career in mind for me. He wanted to be the governor of Oregon. [laughs] And he thought I'd be the perfect governor's wife.

Hughes: Your other husbands, Scott and Fred, have not only been remarkably interested in your career, but actually very involved in your career too.

Roll: Oh, yes. But they were also very much involved in some of their own objectives. If they wanted to do something in particular, that is what we did.

Hughes: You mean they made some of the decisions.

Roll: Oh, yes. Well, not only that, but I mean it was perfectly clear to me that if they were going to be happy, I must know when it was lunchtime and have dinner ready on time. There was no question of artistic, egoistic hoeing my own row. My life with Scott was always in tandem, as is my life with Fred.

Hughes: So they expected you to do your career, but also keep up the domestic scene?

Roll: Oh, yes. And both have been perfectly willing to help me make the bed and wash the dishes and so on. Those were never man-woman issues. It was simply a matter of "these are the things we're doing together, and this is the way we divide the work."

I never felt demeaned by being the secretary in Scott's office. He was the one that was earning money. I was just being useful. But the net proceeds, we shared.

Hughes: Did the fact that you had that job hold you back in terms of somatotyping, do you think?

Roll: Oh, sure.

Hughes: You didn't have time to do as much.

Roll: Yes.

Hughes: And that was all right?

Roll: Yes, I think that's all right. That's the way life is.

#### Scott A. Heath

Hughes: Is it time to talk about both Scott's and Fred's roles?

Roll: Sure, why not?

Hughes: Both men learned photography, as far as I understand it, only after they had met you. Is that true?

Roll: Scott never did do any real photography--just snapshots.

Hughes: There's the work he did on trachoma and other eye diseases in Pere Village. You wrote a joint paper.<sup>55</sup> Do you want to talk about the eye study in Pere Village?

Roll: Scott liked the idea of collaborating. He wanted to go to New Guinea but he also liked the idea of doing something useful and being able to report what he had found. It was obvious that one of the things to look at in a place like New Guinea would be trachoma. So Scott got hold of everything he could find that had

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<sup>55</sup>Scott A. Heath and Barbara H. Heath. Trachoma and other eye disease in a New Guinea village. American Journal of Ophthalmology 1973, 75:121-9.

been written about trachoma all over the world. He talked to Dr. Phillips Thygeson about how to go about studying trachoma, what he thought might be found, what kinds of conditions are conducive to it, and what might account for there being less in one place than another when the climate was the same, and so on. Also it greatly appealed to him, since he was interested in my getting on with my somatotype research. Appealed to him to do something that we were doing together, and having some published evidence that we had worked together.

The first paper that we did wasn't co-authored--we just didn't think about it. However, I did the writing for it. It was an article that came out in The American Journal of Ophthalmology on ophthalmology in the Soviet Union.<sup>56</sup>

Hughes: What kind of support did you have for the Manus study?

Roll: On the first three trips I went to Manus, I had research grants. The sources were Margaret's Institute of Intercultural Studies and the Wenner-Gren Foundation.

Hughes: Did those foundations support Scott as well?

Roll: No, Scott paid for himself.

Scott was very much interested in the idea of a book on somatotyping, and very much wanted me to get on with it. He at least half-realized that in order for us to make a go of his medical practice, he was slowing down my progress. Actually he was depressed that I wasn't getting the book done. And I think he had a sense of his own short-livedness. He used to say to me, "You act as if you were going to live forever." I guess that was the way I was acting, and maybe I still am. I know I'm not going to live forever. [laughs]

I think there's an awful lot of giving as well as taking in any marriage. And I do prefer to be married. There's no question about that. I think it's by far the most rewarding way to live.

Hughes: Did you have to get approval from the Australians for the study in Pere?

Roll: No, I don't think so.

Hughes: So you arrived and just did it?

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<sup>56</sup>Scott A. Heath. Exchange program glimpses of Soviet ophthalmology. American Journal of Ophthalmology 1965, 59:69-88.

Roll: Yes. I thought we were going to talk about the protocol for getting the grants. I had to write a request in each case. The Wenner-Gren Foundation did not have the elaborate applications that the National Institutes of Health and that sort of organization has. And of course the arrangements were very informal for Margaret's institute. I did write annual reports to the Wenner-Gren Foundation to tell them what was going on and what I had accomplished.

Hughes: About the somatotyping?

Roll: The report included the trachoma paper we wrote. I acknowledged that both of us were writing it. Yes, the report covered the whole thing, but there was no obligation about how Scott was supported. It didn't come up in that context.

Hughes: How did Scott go about examining eyes in the village?

Roll: He took minimal optical equipment to examine for trachoma. It requires only an external examination. It's a matter of flipping the eyelid to see if there's any scarring. Of course he tested visual acuity. He did ophthalmoscopy--one of the few instruments he took with him was an ophthalmoscope. He also took a blood pressure cuff and measured the blood pressures for all of the people over forty. He recorded enough blood pressures to make interesting comparisons for the same subjects twelve years apart. Joan Schall did a blood pressure study for the whole village, which was fascinating. She found some familial hypertensive patterns which were intriguing.

Hughes: But no great rises due to the impact of Westernization?

Roll: Oh, yes, some significant rises--increased weight. The data raised the question of whether the hypertension was nutritional, partly situational, or genetic. We don't know, but the blood pressure's up. It is of considerable interest that it is being found in the families in which Scott had found elevated pressures.

Hughes: So it's not an across-the-boards rise?

Roll: No.

Hughes: Scott found that there wasn't a high incidence of trachoma.

Roll: There was no visual damage due to trachoma. There were three or four people who had evidence of earlier bouts with it. The conclusion was that these people have very little problem with trachoma because they are cleaner than most populations in Papua

New Guinea. They bathe in the saltwater lagoon twice a day. In fact, they submerge themselves over their heads.

Hughes: Trachoma is supposed to be a disease of filth, so that makes sense.

Roll: Yes. It's the greatest single cause of blindness in the world.

Hughes: Is there any more you want to say about Scott?

Roll: If I haven't mentioned it, I certainly should mention that he loved the people in Pere and they loved him. He taught the children to juggle with some small round seeds that came off one of the trees. I have some taping that records the rattling sound of the seeds being juggled.

There is something extraordinarily appealing about the people of that village. I suspect this was truer for me and Scott and later for Fred than for anyone else. Margaret liked them. But the three of us have been really crazy about them.

Hughes: Why was there that difference?

Roll: I think it must be due to differences in our temperaments. Some people are more responsive than others. I think Ted is deeply devoted to them. He has a different way of showing it, but I think there's no question about his high regard. I think Margaret certainly had an emotional attachment to JK. Ted certainly has, but Ted lived with him for months on end.<sup>57</sup> All of us loved JK. So did Rick [Shoup] and Joan [Schall]. Rick and Joan are more emotional about the Pere people than the others who have been there. I'm not sure why.

I should mention that part of Scott's ashes are in Pere. They cared enough about him to have a funeral.

Hughes: And a plaque.

Roll: And a plaque which has his name and dates on it. Margaret said, "That will puzzle some innocent anthropologist some day."  
[laughter]

The village meant so much to him. It was a very important part of his life.

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<sup>57</sup>See the interview with Dr. Schwartz, February 16, 1990.



G. Frederick Roll

Hughes: Now, Fred. I don't think you have said how you met.

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Roll: I should go back to how I met him the first time in Philadelphia, where he grew up and lived until he came out here. We met in 1928, when he was seventeen and I was about eighteen and a half. I was on my first Christmas holiday from Smith College. He was then at Mercersberg Academy before he went to the University of Pennsylvania. We knew each other for the four years that I was at Smith. I visited every Christmas and sometimes at Eastertime in Philadelphia with friends of mine there--one family whom I had known during summertime at the beach in Washington, and also through a college friend. This was during the Great Depression. Fred was still at the University of Pennsylvania when I graduated. I went back to the West Coast; he stayed in Philadelphia, so that didn't come to much. It was always obvious that the attraction was pretty strong.

We kept in touch for many years. He came out West on a business trip about ten years after I was out of college and spent a weekend with Hal and me. After I was divorced from Hal I used to see Fred in New York. When I married Scott I didn't have any more communications with him for about twenty-three years. He says it's twenty-five. It turned out that he knew where I was but I didn't even know whether he was still alive.

After Scott died I started out on my long anthropological hegira in 1975, and stopped in New York first to see Margaret, who was just starting her presidency of the American Association for the Advancement of Science. The first night of the meetings, which was a Sunday night in January, I went up to her room to meet her. We were going to have dinner together. We were having a rather early dinner because she had an engagement fairly early in the evening.

We went down to dinner at 6:00, and walked into an elevator that had two men in it. They were facing us, obviously, and I looked at them. One of them looked at Margaret, whom he recognized, and it dawned on me it was Fred Roll. I said, "My God, you are Fred Roll?"

Hughes: So you recognized him first?

Roll: Well, he recognized me immediately when he turned around. In the course of the descent from the tenth to the first floor [laughs],

he said, "May I see you later?" "Why not?" I said I was going to have dinner with Margaret and we were on our way to the restaurant. I said, "I'll call you after dinner." We had dinner and then went back up to Margaret's room. Margaret said she was waiting for a phone call. I told her the story about Fred, and she said, "Aren't you going to call your friend?" I said, "I didn't want to interfere with the phone because you're expecting calls." She said, "Oh, go ahead."

So I did, and we almost didn't meet after all. I said, "Can I speak to Fred Roll?" "We don't have any Fred Roll." I said, "Would you have any Roll?" "Yes, George." I had totally forgotten that his name was George Frederick. Well, that flabbergasted me but I decided that that must be it. So I said, "Let's try it." I was right. It turned out that his then-wife called him George, and sometimes he signed as George.

So we did get together. We spent most of the rest of the week together. By the end of the week we had decided that this was it. Fred caught up on my career in anthropology, and we both caught up on the events in both of our lives for the past quarter-century. He kept saying, "Do you have to go on this frigging trip?" I said, "It might be awkward to cancel it at this point." Then he said, "Well, why can't I go to New Guinea with you?" I thought, "Why would he want to go to New Guinea? This is ridiculous." He kept talking about it and harping on it. He said, "I really want to go. If we're going to spend the rest of our lives together, I think I'd better find out what's so fascinating about New Guinea." So I said, "Well, all right. You talk to Margaret." Meanwhile, during the week, he had met Margaret. I said, "You're on your own now. You talk to her after I've left."

So I went off to Moscow--my first stop. The business about whether he was going to go to New Guinea or not was still not settled, I guess. In any case, I decided, on second thought, that I'd better put in a word on the question of his going to New Guinea. After all I did want Fred to go to New Guinea. So I wrote to Margaret and told her all the reasons I thought she should encourage Fred to join us in Pere. I showed a copy of the letter to John Truesdell, an old friend who lives in London. His comment was: "Well, you gave her the normal options--consent or suicide." [laughter]

Shortly after I sent the letter to Margaret I had a cable from Fred: "Margaret says I can go." So that was settled. Plans for the summer were taking on exciting overtones. I also took a little time to contemplate Margaret's remarkable generosity and

tolerance. I can think of few professor types who would put up with that kind of apparent nonsense and frivolity.

I finished my tour--six weeks in Moscow, a month at the University of Newcastle upon Tyne, a month at the unpronounceable University of Eotvos-Lorand in Budapest, and a couple of weeks at the University of Witwatersrand in Johannesburg. I don't think we need to go into all the details. The important point was that, instead of continuing around the world from Johannesburg to Perth, Australia, and finally to Papua New Guinea, I came back to Philadelphia, to Fred.

I spent a couple of weeks in Philadelphia, during which we bought a condominium on Rittenhouse Square--so we would have a place to live when we returned from New Guinea in September. Then Fred and I came out here to this house. By that time he had decided to retire [from Smith Kline Beecham] in a couple of years. We both needed to know whether Carmel appealed to him as a place to live. I have often said it is fortunate I didn't live in Fresno. He loved the house, Carmel, the works.

Fred returned to Philadelphia and I left for New Guinea from here. Margaret arrived in Pere two weeks after I did. About two weeks after that Fred arrived in New Guinea. He was flabbergasted by the whole scene. [laughs] Suddenly he found himself in a village without any running water, without a telephone.

Hughes: How did he do?

Roll: He did well. He was floored but fascinated. He loved the people and they loved him. The people of Pere are interesting in that they want the widowed to get married again. They don't want you to be lonely. They re-marry themselves. Except JK, in keeping with his own perverse way, was unmarried for fifteen years.

Despite his astonishment at an environment totally different from anything in his experience, Fred's visit was an instant success. He bought a camera specially for this trip. He had never taken photographs, except for snapshots. On this trip he took mostly Kodacolor prints. Soon, he said, "You know, I think I really should do something about photography. This is fascinating." Actually, he got some very good pictures.

Of course, we returned to Philadelphia together, as planned. I had left someone in the house--which did it a minimal amount of harm, and at least protected the property from vandals.

By this time, photography was very much on our minds. I had a nice Leica. That inspired me to give Fred a Leica for his first

birthday present from me. I said, "I think we better have the same equipment, so we can try to standardize our photography. Little did I know that Fred would soon be the photographer.

When we came to Carmel permanently two years later, in 1977, I knew we could start in to develop and print black and white photographs. I had built a darkroom in the garage, which I used for very routine developing and printing of my own not very skillful photographs.

To my delight, Fred was so hooked on Pere Village that we went back to New Guinea within that first year. We have gone back every year since 1975. I know it sounds ridiculous. It turned out that Fred was as enchanted with the people as I had been ever since 1966.

Hughes: He was the photographer from then on?

Roll: From the first trip on he was interested in the photography. However, we were in Philadelphia for two years, where there was no opportunity to learn developing and printing. Fred gradually retired from Smith Kline in the course of two years.

I think, in all fairness, I should insert here a little about Fred's life. His first wife, Polly, had died in 1972. Quite shortly thereafter he remarried--a mutual friend of his and Polly's, who was a widow. When I met him in New York his marriage of two years wasn't working out. He told me Bodine had gone on a trip to Africa, and he had decided not to go. Quite simply it was not a very successful arrangement. So I didn't really feel as if I were breaking something up. I just gave it a good final push. [laughs] It abruptly ended.

When we came here in 1977, Fred immediately started printing pictures out in the garage--with my instruction. As soon as he was pretty much on his own, he found the garage was not the most salubrious environment. Ultimately, as you know, we built onto this house a first-rate darkroom and workroom. As you also know, he has become a first-rate photographer. He's made a beautiful collection of photographs from the village.

Hughes: And knows most of the photographers in this area.

Roll: He has gotten to know all of the well-known photographers who live around here, and goes to workshops from time to time. He now is learning how to make platinum prints, which are extremely interesting.

Hughes: And will do the photographs for the book you are writing.

Roll: Fred, I must say, is most supportive of what I do. I hear hints that he thinks I act as if I were going to live forever too. [laughs] He was enormously relieved when the book finally emerged. But he also greatly likes the idea of collaboration. This is really what I was getting at when I was talking about liking to be married. I like the collaboration that is possible between a man and a woman. I think it is possible, and I think it works. So I probably would not have been writing memoirs and trying to put together books, or ever have done Stori Bilong Pere without Fred; I don't think there's any question about that. He has a remarkable amount of drive and "Let's get it done"--and keeps at me. Which is good. Wonderful.

The Book About Pere Village and JK<sup>58</sup>

Roll: Really, he instigated the idea, and I certainly go along with it, of writing a book about Pere and JK. It started out, in his head at least, as primarily a photographic book. I started trying to write some text to go with it, and discovered that I wasn't getting anywhere. Finally we agreed that what I really had to write was a memoir, an autobiographical account, of my experience with Pere Village, in which John Kilepak is the chief character. Fred has done the photographs--beautiful photographs, and beautifully processed. Archivaly printed. They are not meant so much to be illustrations of episodes as they are pictures of the main characters that are mentioned. There are pictures chosen to show JK as he aged. He was a fascinating man, and the changes with age became him. He never lost that wonderful gleam in his eye. He was a skeleton, but he still had his mischievous look.

There are pictures that evoke the feel of the village. Pictures of some of the young people that show that they are rather sophisticated and "with it."

Hughes: A wonderful project.

Roll: It really is my autobiography from 1966 to the present. I took the draft manuscript out to Pere with me and showed it to three or four of the young people. Young Francis Posenau, who is now the deputy premier, and a real reader, told me he stayed up all night and really read it.

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<sup>58</sup>The book is still in progress as of 1993.

I'm trying to write a book for the people, and also for the general public. It's a trade book. This is not an anthropology book.

[Interview 8: November 25, 1990]##

Richard F. Shoup

Roll: As I told you, I met Rick Shoup at Monterey Peninsula College when I taught there. He was so interested in the somatotype idea that he became one of the leading spirits who said, "Let's do a somatotype study of the students." He was joined by several others. We took 150 or more somatotype photographs and all the measurements of volunteer students on the campus. I still occasionally see students who were involved in this.

In the end, Rick decided on going to the University of Texas in Austin, where Bob Malina was his advisor. As matters turned out there was some stress and strain between Rick and Malina. However, he eventually did get his Ph.D. under Malina.

Rick got a grant from the National Science Foundation to do his field work in Pere and Manus. It was basically a study to establish or rule out secular changes in growth patterns of children. So he did somatotype measurements and photographs of all the children in the village. This was interesting because he took up where I left off with the children in 1975. He made a real contribution to the ongoing research.

Hughes: Is "secular change" synonymous with environmental change?

Roll: No. Secular changes mean changes through time. Were the children taller in the 1980s than they were in the 1950s and 1960s, for age? Unfortunately, I don't think I can tell you precisely what he found out. There were some changes, but they're not spectacular. Secular change shows up much more dramatically, for example, in the study of the Japanese students at the University of Hawaii, who were enormously taller--both boys and girls--than either of their parents, so much more that it was not just because the parents had lost stature through age. Studies of patterns of growth and development, and the rate at which children grow, and the variations in age for puberty and for menarche have been important, oh, since the turn of the century.

Hughes: Margaret was also interested in that?

Roll: Although she never took part in this kind of study, she certainly was interested. There are some very important growth studies. One began in the 1920s in Berkeley. There was another one in Denver. They've been widespread. At present there are growth studies going on in many, many countries all over the world. Growth is a topic of considerable interest.

Rick supported himself while he was a graduate student by working on what really amounts to forensic anthropology projects for, I think, the State Department of Highways, which quite frequently ran into Indian graveyards in the course of their excavations. He identified the bones and established their probable age and sexed them as well. He did a beautiful job for which he was well paid. He also became an expert in computer programming connected with health delivery systems.

Hughes: This was a separate interest?

Roll: It was a way of supporting himself. In each case he managed to get jobs that were connected with what he was working on. By the time he had finished his graduate work, the market for anthropologists in academia was tightening. Anthropology had an enormous burgeoning from the 1950s onward, and finally got overstocked with young Ph.D.s. So a good many of them have been employed outside of anthropology. Rick is one of them, and is one of the best paid, I should imagine.

He has worked for several health delivery systems. He now lives in Concord, Massachusetts. He is in charge of all the computer matters and has a department of forty employees. He maintains his interest in the Manus material and is now collaborating and sharing his data with Joan Schall Murray.

#### D.C. Gadjusek's Blood Studies in New Guinea

Hughes: Rick told me that Gadjusek had drawn blood in Manus.

Roll: And I don't know precisely when. Gadjusek is a Nobelist whose work with a disease called kuru in the highlands of New Guinea made him famous and had to do with his Nobel Prize, which he shares with Professor Barry Blumberg at the University of Pennsylvania. Incidentally, Blumberg is another of those who have degrees in both anthropology and medicine. Gadjusek did a lot of

blood work in connection with his research among the New Guineans.

Margaret knew Gadjusek. I know she was in touch with him, because he sent her all of his reprints, which she gave to me. It's a bundle about six inches high. I suppose Margaret may have suggested that Gadjusek might do a blood study of the people in Pere Village. I know that he and a Hungarian doctor, named Zigas, collected blood in Pere in the 1960s at a time when Ted Schwartz was in the village. Zigas worked for the Australian-administered health service of the then Territory of Papua New Guinea. I knew Zigas, who has since died.

Ted Schwartz was in the village for very long periods of time in the sixties. He was there for a full year during and after 1953, and he returned when Margaret returned in '63 or '64, and then stayed on. So he knew who was doing research all over the territory. Gadjusek and his colleague collected blood from almost everyone in the village. I suppose he published a paper, but I couldn't put my hands on it. I do not remember the significance of the findings; in short, I am not very well informed.

Hughes: Rick thought he hadn't published, but that may or may not be the case.<sup>59</sup>

Roll: Rick may be right and I may be wrong. In any case, theoretically, the data he collected are still somewhere in his possession. When Margaret made inquiries, he did not respond by sending along the data. So questions about Gadjusek's findings are still unanswered. Margaret was always interested in reaching out into medical and genetic directions.

Hughes: How do you explain that, since she didn't have a biological background?

Roll: I don't know that I can explain it. I think she knew it was important to understand people biologically as well as culturally, and thought that there probably were some important inferences to be drawn from looking at both sides--even though she herself really had no biological training. Margaret had a universal interest in the idea of synthesizing knowledge. She really had a synthesizing mind. She also had a remarkable rote memory. I used to be a little taken aback by the glibness with which she recited the results of her syntheses. [laughs]

Hughes: Leaping merrily from one discipline to another?

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<sup>59</sup>Notes from telephone conversation with Rick Shoup, November 21, 1990.



Roll: Yes. She was likely to say, "Now tell me about so and so." Then a few days later, you would find out what she thought she'd been listening to, which was in general perfectly intelligent, but not precisely what you thought you had told her. It wasn't that she misquoted. Well, I don't understand that kind of approach, that's all. I greatly admire the idea of synthesis.

Hughes: She was also a strong proponent of multidisciplinary teams.

Roll: Oh, yes, she liked the idea of getting specialists together.

Hughes: How much of that was her idea and how much of that was just what was going on in anthropology?

Roll: I never thought of that, but I think it was probably as much a trend in anthropology as her own idea.

Hughes: So it wouldn't have been a foreign idea to call on others?

Roll: No, it was in the air all right. There was a lot of talk about interdisciplinary and multidisciplinary studies.

In any case, after Gadjusek had been in Pere, she thought it would be interesting to have further blood studies done. We talked about taking a doctor out there. Obviously a medically trained person in the field would be very useful. Scott's contribution as an ophthalmologist could not reach over into many aspects of medical research, that could be of great value.

#### Laurence Malcolm's Growth Studies of Children in Pere Village

Roll: I had read several papers of a man named Laurence Malcolm. I don't know what his exact title was--director, I guess, of the hospital in Lae, New Guinea. He worked for the National Health Service, which was an Australian-administered ministry.

Hughes: And he was Australian?

Roll: I think he was from New Zealand, because that's where he went when he left New Guinea. He is now in Christ Church, New Zealand.

An aside is that the public health facilities in the territory of Papua New Guinea were quite good, which can be attributed to the Australians who administered them. It doesn't mean that every village had wonderful public health facilities, but it did mean that there were good facilities in the population

centers of the territory. There were very interesting and very competent medical people scattered around over New Guinea.

Incidentally, I mentioned that Gadjusek did some blood work with a Dr. Zigas, who was Hungarian. I was interested that there were a good many doctors from European countries, plus several from the U.S. and Canada, working in the Territorial Health Service. In fact this is still true, now that Papua New Guinea has its independence. Zigas was a very interesting and very bright man.

Going back to Laurence Malcolm: In addition to administering the Hospital in Lae, he also was interested in research. He did at least two growth studies that I can think of offhand. He worked in what is called Morobe Province, of which Lae is the capital. Morobe Province runs from sea level, which is Lae on the coast, gradually to, I think, 2,500 or 3,000 meters, which would be about 6,000 feet plus.

The two studies that I remember were: one halfway between the seacoast and the highest altitude, and the other one at the highest altitude. These were growth studies of the children in small villages. I was very much interested in them because the rate of growth which was reflected in height and weight went from medium at the moderate altitude to very slow growth at the high altitude. By this time I had enough data on the children of Pere to realize they were growing much faster than either of Malcolm's Morobe Province populations.

Hughes: Now, that's essentially what you said in that 1971 paper with Lindsay, isn't it?

Roll: The 1971 paper, which was published in the American Journal of Physical Anthropology, which Lindsay and I did together, had reported the differences between Malcolm's series and the Pere series.<sup>60</sup> But there also was another extremely interesting small piece of information which I gleaned from the Russian Journal of Anthropology. At that time I was subscribing to the Russian journal. In that there was a study by an anthropologist, whom I knew in Moscow, of children in a far north Siberian city called Norilsk. Norilsk is sixty degrees north latitude, which is pretty far north.

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<sup>60</sup>Barbara H. Heath and J.E. Lindsay Carter. Growth and somatotype patterns of Manus children, Territory of Papua and New Guinea: Application of a modified somatotype method to the study of growth patterns. American Journal of Physical Anthropology 1971, 35:49-67.

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Roll: There were two samples of children in the Russian study--one of children in the schools in Norilsk itself, and the other of children in villages outside of Norilsk whose parents were reindeer farmers. They also compared the growth patterns of those two samples of children with a study of children in Leningrad. These are pretty different populations. The children in the city of Norilsk and the children in Leningrad had identical patterns. They were taller and heavier than the Siberian village children at the same ages. They were the same height and weight for age in Norilsk and Leningrad.

I also found that the children of the reindeer farmers in the villages outside of Norilsk had exactly the same height and weight patterns as the children of Pere village. Not only were they the same heights and weights, but also had the same rate of sexual maturation. This is most fascinating, because there is a theory, or there used to be a theory, that equatorial people were early developers. Not so. Obviously, it's best to go look at them and measure them and find some of comparable ages to compare them with.

So, knowing Malcolm's work and admiring it, I said to Margaret, "Why don't I write to Dr. Malcolm and ask him if he'd like to come to the village and collect blood and participate in what we are doing?" Margaret, as always, was enthusiastic about bringing in anyone who seemed to be an expert in some area we lacked. So I wrote to Malcolm, and after some correspondence it was arranged that he would come to the village while Scott and I and Margaret were there in the summer of 1971. He would spend a week, during which time he would participate in the photographing and measuring of the children and would draw blood from as many people as possible.

I can't remember whether he collected blood from the children. Whatever he did, he took all of the blood data and the blood samples with him when he left the village. I remember it as a complicated procedure. We manufactured enough ice in the kerosene-driven refrigerator to deal with this remarkable project. Malcolm managed to get the samples packed properly and took them back to Lae with him. Malcolm, I think, published a paper on it. He also had all the data, and I have never been able to get the data from Malcolm either. These collaborations have not been ideal. It's a great pity, because both Rick and Joan, and Joan in particular, would very much like to have some comparative data for work that they're doing.

I don't understand people who are unwilling to share their data. Well, I suppose that they want to be the experts in whatever it is they're doing, and they don't like to share it with anybody. I don't know a lot of people who are great sharers, as a matter of fact. As I've said at some length, Margaret certainly was one who shared. I'm perfectly willing to credit her with infecting me with the same attitude. I have no hesitation about letting almost anyone who wants to play with my data. After all, others may discover something I never saw. Bully for them.

The department of anthropology at the University of Pennsylvania has always been one of the best in the country. From the beginning of my interest in anthropology there were always several people in physical anthropology there whom I knew and admired. So I had connections there.

Frank Johnston was not the chairman of the department yet. A cultural anthropologist named Ward Goodenough was chairman. I knew him and was friendly with him. Frank Johnston is a remarkably competent physical anthropologist and an important anthropologist in general. He has been the editor of The American Journal of Physical Anthropology and also Human Biology and is the present chairman of the department of anthropology.

When I went to live in Philadelphia, I went to see Frank. He introduced me to Joan. He said, "I think this is a girl who'd be interested in what you're doing."

### The Genealogies of Pere Villagers

#### Earlier Work

Roll: I forgot to mention that while Rick was an undergraduate and my student, I had become interested in the genealogies in Pere. It was obvious that if I was going to have any notions about the genetics of somatotype, I would be interested in how people were related to each other. Margaret had been very careful about establishing biological relationships in a village where early deaths of parents frequently led to adoptions, usually by some relative in the same family. She kept accurate record of biological versus adoptive relationships.

Hughes: Beginning in 1928?

Roll: Beginning in 1928. Reo Fortune, her husband, in his book on Manus religion,<sup>61</sup> made marvelous records of exact relationships. So the material for in-depth records of relationships had been laid down and was not too difficult to trace.

Hughes: Had Ted carried on any of that work?

Roll: I don't think Ted really did pay much attention to it. In the beginning Ted was particularly interested in the political movement that was going on. However, he was very much pleased when I became interested in the genealogies.

#### Roll's Work with Shoup and Schall

Roll: When I realized that it was of interest, I began to build the family trees. Rick Shoup was the first person who worked on the genealogies with me. Rick and I spread out long pieces of butcher paper on the floor and wrote down the recorded family trees on them. We found this very entertaining, and were fascinated because we knew in some cases we had six generations where we could record the names of ancestors.

In 1975, when I went to Philadelphia, I was really hooked on the genealogies. Of course this was outside of my somatotype interest. I was interested in finding out how extensively I could build the family trees of each person in the village. It became pretty obvious that we could, with a little patience, construct detailed family trees for almost everyone in the village.

Frank turned Joan over to me. She was beginning her graduate work at the University of Pennsylvania. At that time Joan was more concentrated on demography than she was on genetics. She had not decided on a topic for her dissertation. She became very much interested in the studies that we were doing in Pere, and very much interested in learning as much as she could about genetics.

I've forgotten just when it was that Fred and I gave Joan a grant to spend a year at the University of Newcastle upon Tyne with Derek Roberts. Derek, being a geneticist/anthropologist was able to teach her, or put her in a position to learn, all the latest statistical and computerized techniques for studying genetics. Derek was already very much interested in the Manus

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<sup>61</sup>Reo Fortune. Manus Religion. Lincoln, NE: University of Nebraska Press, Lincoln, 1934.

study and in what I was doing, so he was intrigued with the idea of Joan pursuing that aspect of the studies.

When she came back and went on with her graduate work, Joan and I in the course of two years really pretty much reviewed all of the genealogical materials of the village. I had already set up the lists of people so that every person had a serial number. Incidentally, there was no significance to what number a given person received. When I learned of a new person, he/she got the next number in the line. It sometimes led to duplication of numbers when we forgot we had already given that person another number when we were constructing another branch of the family. There were some interesting glitches that happened along the line, but I think we discovered them all. By the time we were through, we had identified almost three thousand people. It's a lot of people. (As a matter of fact, I now have over 3,700!)

Hughes: Is that all of the village?

Roll: It's all the people that we know about from the very beginning, who had stayed in the village or had migrated from it. It includes the spouses and children of people who left the village.

Hughes: How did you get the information?

Roll: By this time, instead of spending a lot of time on the somatotypes, I spent my time calling people in to tell me what they knew about their families. Or, whenever anyone came to the house, I said, "Now, who was your father? Your mother? Your brothers and sisters? Their husbands and wives and children?"

Hughes: You always asked people in the family? I mean, you wouldn't have asked JK?

Roll: Of course I asked JK. I asked everybody. Check and double-check and triple-check. And if I was in doubt, I'd say, "Is that really So-and-so's child, or is that an illegitimate child that was picked up along the way?"--of whom there were rather a lot.

Hughes: Were they frank about that?

Roll: Oh, yes. They are remarkably truthful. Almost none of them really evade. Some of them don't know the answers to perfectly good questions. In which case, I ask other sources.

Hughes: Is there much of a stigma about illegitimacy?

Roll: No. There's what might be called a "stink" when the girl comes home pregnant. Considerable displeasure. But when the child

arrives, usually there's a contest over who is going to have the child. It's a child-oriented culture in many ways. They love children and are wonderful to them. However, I have since discovered that some of the adopted ones, the children of broken marriages and so on, do suffer some over it.

Hughes: They are distinguished from the others?

Roll: They feel deprived and that various other members of the family are getting a better deal. This is something I don't really know that much about, but I am aware that it is true. However, when they are very little, they certainly are smothered with love and care--no doubt about that.

I have spent a great deal of time keeping track of the new births. It's interesting that they have what amounts to a birth certificate. If the child is born in the village, the first time the family gets a document is when the visiting nurse--and they do have a visiting nurse program--meets the new baby. The visiting nurses are nationals; they're indigenous people who are trained in nursing schools in Papua New Guinea. They fill out a little booklet with pages on which is recorded the birth date, the mother and father and the number of siblings and so on--and then the inoculations they get. It's pretty good.

Every time I visited the village I asked all the parents to bring in the record books they had for their children. In this way, I have managed to record the majority of the birth dates of all children born since about 1960. Before there were individual books for each new child, the midwife kept reasonably accurate records of all births in one notebook. I have also quizzed everyone I talked to about their relatives who live on the outlying islands of Mok and Lou and Balowan.

Hughes: How do you indicate when you think information is somewhat speculative, or do you?

Roll: The actual identity of the person is perfectly certain. The only thing that's uncertain is the age. I'd record: "about such and such an age," or just "age unknown."

Hughes: Barb, what's unusual about these Pere genealogies?

Roll: They're unusual because in anthropology they probably are the most complete record for the greatest number of generations in existence in anthropology. I say "probably." I don't guarantee it. Many anthropologists keep genealogies. I don't know of any example of the same person going back year after year for decades

to the same village and keeping the records current. I could be inadvertently exaggerating and I could be wrong.

Hughes: Do most of the genealogies in anthropology include social as well as biological relationships?

Roll: You mean marriages?

Hughes: I guess it also could include adoptions, couldn't it?

Roll: Oh, yes, I think so. I haven't studied the other kinds of records, but I know, for example, that [Bronislaw] Malinowski kept genealogies and thought they were very important. Yes, I think I have accurate records. The man who made a great deal of the importance of genealogies was W. H. R. Rivers, who was an Englishman. His studies were in the Torrey Straits, which are at the extreme north of Australia. This area is just as equatorial and hot as Papua New Guinea; very much like the New Guinea climate, as a matter of fact. Rivers did some very important studies there and wrote at some length about the importance of genealogies in studying anyone.

Hughes: Why did he consider them important?

Roll: I don't think I can give a good account of his reasoning just from memory. I have the impression that he felt it was impossible to understand social structure, without pretty accurate information about biological relationships. Margaret certainly knew that the kinship system was very important in Manus social relations. Not having been trained in cultural anthropology, it dawned on me by experience rather than teaching. Margaret wrote a very important, probably little-known monograph called Kinship in the Admiralties,<sup>62</sup> which is really one of her most important contributions. She used to tell me that she did it to prove to Boas that she could. It is very good, and Ted says that there are few mistakes in it.

Hughes: I got the impression from talking to Joan Murray that it was the kinship system that really formed the infrastructure of Manus society.<sup>63</sup>

Roll: I think it does.

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<sup>62</sup>Margaret Mead. Kinship in the Admiralty Islands. New York: American Museum of Natural History, 1934.

<sup>63</sup>Notes on telephone conversation with Joan Murray Schall, June 13, 1990.



Hughes: She also made a point of your careful distinction between the biological and social relationships.

Roll: I certainly made the distinction. I don't know whether that's unusual or not. I don't know enough about other people's kinship studies to know how fastidious other researchers are about establishing that difference. I think for anyone who has an interest in genetics, it is inescapable.

I have a feeling that if there are serious inaccuracies in our records, they would have to do with some paternities which slipped by without having been duly recorded. This is, parenthetically, the kind of thing that keeps one fascinated with the ongoing recording of kinships. Frequently, when we return to New Guinea, I ask questions of some of the younger generation with whom we had good rapport, about some irregular relationships amongst the elders. I have learned marvelous things about the identities of some of the people whom we have assumed to be legitimate offspring of certain fathers.

Joe Lokes identified for me two people of Pere origin (I don't think they're living there right now) who he believed were JK's children. And Margaret refers to children he fathered by Benedikta. It's an aspect of Pere history that suggests a little sub-project that would be interesting. I think I can verify these relationships pretty well. Margaret refers to a conversation with the mother of the two children, in which she complained that JK was not contributing to their support.

It's eternal. One never finishes finding out remarkable facets of lives. Fred used to say I was having one of my "Eureka!" mornings. When someone came in I'd say, "Husat mama bilong So-and-so?" and learn a biological connection that had escaped me. I'd exclaim, "Oho! so that's who it is!" And it goes on and on and on like that.

I remember the wonderful man, my friend Gabriel Pokakes, a very handsome, dashing character. The first time I ever saw him, he was carrying a shotgun through the village, a very unusual sight. I don't know how he happened to have a shotgun. I liked Gabriel, and I liked his brightness. I used to think, "There's something a little different about him; he has a somewhat exotic look." I knew that his mother came from the bush, and she was what they call an Usiai.

One day when I was in the administrative town of Lorengau I met a young man who was in the government, who came from a neighboring island called Lou. We got to talking about who his relatives were and so on, and he said, "One of my relatives is

Gabriel Pokakes. His grandmother came from Lou, and she was--." I've forgotten her name. I think she was the sister of his grandfather. All of a sudden, I realized that Gabriel was exotic because he had two grandmothers who were outside the village. Like the Usiai, the people of Lou are different enough from the Manus of Pere, that it's not uncommon to say, "Ah, that's somebody from Lou."

I am talking about differences noticed by the people themselves, but not by us until we had long experience. These are the kinds of data that would be of great interest if one began to find some interesting genetic factors--of great interest in Gabriel's case, because he has an enormous number of descendants. He had thirteen living children. I think almost all of them are married, and most of them have had children.

Hughes: Are these genealogies of interest to people outside the immediate group studying the Manus?

Roll: Oh, yes. Anyone who has troubled to find out what we're doing is certainly interested in them.

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Roll: Outside of the immediate circle, people like Derek Roberts are enormously interested in the idea of going on and doing more. Phillip Tobias, who is now retiring as professor of anatomy at the University of Witwatersrand in Johannesburg is greatly interested in the Manus data. He is very much interested in genetics. He's the one I referred to who told me about the Klein-Waardenburg syndrome.

I'd better finish up Joan Schall. First of all, she did her fieldwork in Pere in about 1982, shortly after Rick Shoup. Her study was partly demographic, that is, it has to do with out-migration from the village and out-marriages. Her primary emphasis was on blood pressure. She investigated whether blood pressure is elevated in those who have gone to live in denser population centers. She collected blood pressure data in Lorengau, which is the capital of Manus Province. The people that she was studying were migrants from Pere. She also collected data in Lae, where there's quite a large enclave of Pere people, and in Port Moresby, which is the capital of Papua New Guinea. She also repeated all of the anthropometry that I have done and all the anthropometry that Rick did, so there are nice longitudinal data.

Hughes: Repeated and extended, presumably.

Roll: Yes. So there's been a rather remarkable ongoing collection of physical anthropology material.

Hughes: Do you have somatotypes for all the living-in-your-lifetime people in the genealogies?

Roll: No. I have none of them that have for a long time lived outside of the village. I don't know what proportion of those who were alive at the time I first had any contact with the village are still alive. Of course, in the case of the somatotype photographs taken in 1953, a few of them had died between 1953 and 1966.

Hughes: Do you still somatotype when you go to the village?

Roll: No. I haven't done any further somatotyping since 1975.

Hughes: Other than the irregular relationships, were there problems in getting the data that you needed for the genealogies?

Roll: No. I wouldn't say there were. The only thing that could seriously interfere with having good genealogical data would be not having my intense interest in the people. I'm fascinated by their relationships and entranced with what they think of each other.

Hughes: But so are Rick and Joan, isn't that true?

Roll: Yes, they are, but of course, they haven't spent as much time as I have with them. Yes, they have ideal temperaments for this because they love the people. Margaret didn't have the ideal temperament, but she had the concept of how important it was to have accurate records of who people are.

Another big plus has been that there were no communication difficulties with the people in the sense that they accepted us as friends, not that the language barriers weren't there with the older people. I do not know whether in other cultures or other parts of New Guinea people have a different attitude about revealing their intimate histories. I think that even we miss a good deal because of language barriers--particularly with respect to some of the nuances of what's going on. But I don't think that extends to relationships or any event that involves the whole village.

JK used to sum it up very nicely. I'd say, "Can we talk about So-and-so?" He'd say, "Oh, yes. Em i orait. Em i bilong stori." That belongs to history. If it is history, it is an open book. They're not anywhere near as protective of what we call private affairs as many people in our culture are.

Hughes: Dr. Schwartz said that when JK lived with him in San Diego, Ted learned things from JK that he had never heard in all his years of fieldwork. So there's a limit in any study to what one can learn.

Roll: There's a limit. You learn things that would be of far greater interest to a cultural anthropologist than to me. I always was enthralled with knowing all the details I could. But I never made any effort to learn much beyond the actual relationships.

I think one reason that the cooperation was so good was that whenever I went out there I took many copies of the typed-out, printed genealogies and gave them to the various families. They were fascinated at seeing their own histories in writing. Almost all of them are sufficiently literate in Pidgin to recognize their names. So they can read the genealogies.

### Stori Bilong Pere

#### Genesis

Hughes: That leads directly into Stori Bilong Pere.<sup>64</sup> How did you get the idea of the book?

Roll: As I developed the genealogies and handed the printed duplicates to the appropriate people, many of them said that they wished there was a book. They realized that although they knew their own lineage pretty well and had a fairly keen appreciation of what some of the obligations were at various levels of relationships, they never had seen the relationship between families. They knew how to arrange marriages, but they never had seen it spelled out. Their marriages are all lineage-connected in one way or another. They call it building a bridge or building a road. Sometimes they had great difficulties finding where the bridge was, but they'd think of a connection.

Hughes: Which is a blood connection?

Roll: Yes. But adoption was not a problem in this case. JK's life was fascinating because he was adopted. In case of an adoption, the

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<sup>64</sup>Barbara H. Roll. Stori Bilong Pere. A Genealogical and Photographic Study of Pere Village, Manus Province, Papua New Guinea. Monterey: Commercial Press, 1982 (privately published).

adopted child has exactly the same relationship to the parents with respect to any social arrangements, as if he were a biological child. JK's marriage was arranged by his adopted father. After he grew up, when he wasn't entirely pleased with what was going on in his Pere family, JK reverted to his Matchapar family. And he also reconnected and polished up his relationships with his Usiai relatives. So he had three different family relationships in operation all the time. I suppose other people in the village may have done the same thing.

I remember the incident that sparked Fred and me to give immediate serious thought to a book. There had been a lot of talk about how they wanted to have the genealogies in print. JK had said much earlier that he wanted a book--in effect, he said he would like a book about himself. "Book bilong mi tasol." (I had in mind writing a book but I hadn't seen quite what I was going to do with the genealogies.)

One day in about 1981, Fred and I were in our house, when one of the boys in the village who had at least gone through high school--and probably had gone to some kind of an institute for a year or two--was home for a holiday. He was working in a bank, I remember, in Port Moresby. I showed him his family's genealogy. He said, "How wonderful it would be to have a book!" He spoke good English, so we were having a meaningful conversation. Fred said, "We should do a book. Why don't we go home and do a book? We can publish it ourselves."

We discussed the fact that we never would get a publisher who would sit still for the kind of a book we had in mind. What we had in mind was a book that would have many, many, many photographs of the people in the village. In effect it would be a family album with genealogies.

By this time, I think I had all of the genealogies written out in some form. There were about forty-eight of them. Of course, many of them interlock. It became so complicated to keep track of people and their relationships in my head that I knew I must use a computer.

We spent a good part of 1982 putting together the book which came to be called Stori Bilong Pere (which can be translated either as Story of Pere or History of Pere). We presented it as JK's book, dedicated to him. The only prose in it is a letter to JK in which I reconstruct for him the story of our friendship, with reminiscences about each of the times that I went out to Pere, and about his coming to America twice, and the various incidents and stories about people. The text is followed by the genealogies themselves. Fred printed 650 photographs, which is a

lot of photographs! A few of them went back to 1928--these are Reo's photographs. A few of them are Ted's and Margaret's; a few are mine. The majority of them are Fred's. We arranged them in the same family order as the genealogies were presented. I don't think anybody's ever noticed that except me.

Of course there are people in the village who are disappointed because we didn't have pictures of them. Also, woe is me! I misattributed a couple of them--which has been called to my attention.

#### Presentation Ceremony, Pere Village

Hughes: Do you want to say something about the presentation ceremony?

Roll: Yes. At some expense, we put this book put together in record time. By November [1982] it was done.

Hughes: How many copies?

Roll: We had, I think, seven hundred. The problem was how we were going to get the books out to New Guinea. It was obvious it was going to be exceedingly expensive to transport them. They are 8-1/2 by 11 inches and weigh three pounds. They are printed on nice, glossy paper. It really is a handsome book.

First of all, United Airlines did not waive the charges going from San Francisco to Honolulu, but from Honolulu on, Qantas waived its charges. The books must have weighed almost a thousand pounds. They were hefty.

The problem after transportation to Port Moresby was how we were going to get them from Port Moresby to Manus. Eventually we communicated with a man named Peter Barter, who is the owner of the Papua New Guinea Travel Service and also owns a hotel in Madang. We had become good friends when we went on a cruise on his small ship a year or two before. We asked him if he would consider including a trip to Manus on his standard cruise of the Papua New Guinea area. He said he'd always rather wanted to do that. If we could get enough people to take this cruise he would include a stopover at Pere Village. The idea was that we would get the books to Madang by Air New Guinea, and then we'd put them on the boat and go to Manus.

Fred and I spent the summer of 1982 persuading our friends and relatives to take a cruise to New Guinea. We ended up getting

a free trip for Rhoda Metraux, who gave instructive lectures on the ship. My sister and a cousin of mine and a retired doctor from Portland signed up, and a group of our friends from Philadelphia, who were connected with the University of Pennsylvania and the university museum. We had enough to make the trip from Peter Barter's point of view. There were also five or six regular tourists--rather strange people, to say the least. I remember there was an extraordinary Italian woman doctor, the busiest body I've ever seen--large, active, and noisy.

Everyone except us went from Port Moresby to Madang, where they stayed overnight at Peter's Madang Resort Hotel. Their cruise started with four or five days going up the Sepik River. We sent the boxes of books to Madang, so Peter could bring them to Pere on the Melanesian Explorer.

We parted company in Port Moresby with the group who were going on the ship, because they were going up the Sepik River first. Meanwhile, we with my sister and our friends the Fraleys, flew to the village. Fred wanted to be sure that everything was all set there.

The village arranged a large singsing, which is quite a celebration. They recruited everybody in the village who remembered all the old customs. They put up a dancing pole (called a "tchinal") upon which they stood to welcome the arriving tourists. In fact, they had two dancing poles. The second one was manned by the neighboring village of M'Bunai. The young men from M'Bunai thought up the brilliant idea of dressing (or "undressing") in the garb of their ancestors, which meant painting their faces, putting flowers in their hair, and wearing white cowrie shells on their penises. This made a great hit.

Hughes: This was not a common performance?

Roll: We had never seen its equal before. The whole village was agog. The number one politician, the parliamentary representative, achieved a costume the likes of which I have never seen. He had a grass skirt and a straw hat that I think he probably made himself with spikes with hibiscus blossoms on each spike.

Everybody was champing at the bit to have the ship arrive. The anticipation was heightened by the fact that we did not know what time of day it was going to arrive. Practically the entire village was on the shore watching for it. Some of the men even organized a pool, betting on the exact minute of arrival. Finally it was sighted.

There is a reef about a quarter of a mile out from the village. Even at high tide the water in the lagoon is not much more than waist deep--perhaps up to your chin in some places. It's not deep. So the ship anchored outside the reef. The ship is equipped with two powerboats. Luckily it was high enough tide so they could bring in the twenty-five tourists.

Peter Barter had bought himself a video camera. He had never used one before. He did about an hour and a half of the wildest film I have ever seen. Very instructive. We edited out a not bad twenty minutes from it.

Everyone came ashore. We had dances on the dancing poles. We had the women dancing, we had the men dancing, and we had an enthusiastic band beating on a set of four slit drums, called garamuts. There was a marvelous display with a sail used like an awning over an array of beer and bananas and beautiful pineapples, all peeled and done in nice little chunks, to say nothing of some limp cookies and lukewarm bottled drinks. It was quite an array. And the tourists had a fine time.

A gang of strong young men brought the books ashore and dumped them in our house. We quickly decided, because of the hour, it was best to have the distribution of the books the next morning, after which we would all sail off on the rest of the cruise.

Meanwhile, Peter Barter, an old New Guinea hand who had become a citizen when independence came, invited fifteen of the village dignitaries to have dinner with us on the ship. Fred and I had not intended to board the ship until morning, but we changed our minds when the festivities for the villagers came up.

By this time the tide had gone out, so we walked out to the ship. It was mucky. It was also dark. But JK and several others guided us through the mess to the ship. We stayed aboard that night. We had to get up the next morning and get back to the village for the presentation of the books.

Meanwhile, in Port Moresby, we had unpacked all the books and repacked them. We had put a card with a name on it for every single bloody book. Three hundred of them. We had a book for every adult head of family and every unmarried adult in the village, which meant many eighteen- and nineteen-year-olds. We gave books to both husband and wife. I distributed about fifty books to the people I knew best, and then asked the village government bigwigs to do the rest.



I forgot to say that I gave a presentation speech before we started. Peter Barter was very clever. He got the whole ten-minute speech on video, which is included on our twenty-minute video. It's very amateurish, but it records a scene that was unusual, to say the least.

Of course the thing that is unusual about the book is that it is the first written history of the people themselves.

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Hughes: Was there any problem there, taking oral tradition and putting it in written form?

Roll: Not really, because this was not prose, it was just genealogical records.

Hughes: The history of these people had been largely oral until you put the book together.

Roll: Except that they really didn't have much oral history. They were not great historians. They only could remember back, oh, three generations. They did have some mythology, and I am not very familiar with it. I've heard JK tell stories that are supposed to be some kind of myths. I never have taken this very seriously. I'm probably wrong.

Hughes: Because you weren't sure of the truthfulness of it?

Roll: No. I mean it was out of my line. Now, Joan has taken much more interest in that aspect of it. Ted has collected a lot of material. He told me the other day that he has tapes of conversations that he had with JK, and tapes of conversations between JK and Lokes, for example. All of them with JK and whoever else he was talking to speaking in their own language. Not in Pidgin, but in their own language. We've talked about asking Posolok, who's a very literate young man in the village, to translate them into English for us.

[Interview 9: February 3, 1991]##

### John Kilepak

#### First Visit to the United States

Hughes: Why and when did JK come to this country for the first time?

Roll: He came to this country the first time because Scott and I liked him so much and because he obviously wanted more than anything to see "Amerika." Beginning with Margaret's first visit to Pere when he was a teenager, probably fourteen or fifteen, he was fascinated with the idea of America. He also was fascinated by Margaret, who was the first white woman he had become acquainted with. In fact, Margaret and Reo Fortune were the first white people of any kind he really became well acquainted with. He had heard about the Germans, and knew that there were Australians on Manus, and that they were important.

When Margaret came back after World War II in 1953, JK knew a lot more about America. He had seen--and seen up close--the American armed forces drive out the Japanese occupying forces. He was one of the young Manus men the American military hired to do a variety of jobs--probably mostly manual labor. I'm sure they didn't get paid very much. However, it seemed like quite a lot to them. The soldiers were very nice to them--gave them cigarettes and candy and field rations and all sorts of things that the young Manus men thought were wonderful. The Japanese hadn't mistreated them severely during the occupation, but they hadn't treated them very well either. In any case, they greatly disliked the Japanese.

The Manus people and all of the people of Papua New Guinea were, let us say, neutral about the Australians. The Australians actually administered them very well, I think, and did lots of very wise things. However, JK was indifferent to them whereas he was very pro anyone who was American. He thought that all good things flowed from America.

By the time Scott and I went to Manus, JK was more eager than ever to visit America. When Scott arrived, JK pinned him down the second day he was there. He said, "Mi laik go long Amerika nau!" We were a little taken aback, had never given serious thought to the idea of taking someone from the village to the United States. That set us talking about it. The fact that we both already liked him very much made a difference. We thought he was the most attractive figure in the village. So we began to think about what it would be like to have him live with us, and came to the conclusion it could be a pretty fascinating adventure.

Hughes: This was unusual in anthropology. I can think of Ishi, but that was a little different.

Roll: Yes, that was very different.

Hughes: It's not common for anthropologists to bring their subjects back with them, is it?

Roll: No, it's not common. It has been done, and it usually is a disaster. The first example I can think of was not in anthropology. I'm thinking of Captain Fitzroy of the Beagle, on the voyage Darwin made so famous. He brought several people from Tierra del Fuego. A dreary story with an unhappy ending.

Hughes: Of course, some American Indians were taken to the Court of St. James.

Roll: Oh, yes. Those adventures did not work out very well.

Hughes: Removing people from their own environments that are very different from ours is risky for many reasons. It's scientifically doubtful, isn't it?

Roll: I think dubious may be a better word. There's always some danger that they will prefer the new environment to their old one. They may not want to go back. We talked about those possibilities, and a number of others. In the end we decided that JK had such unusual integrity it was worth the risk.

So we told him, yes, that we would go ahead with arrangements for him to come and live with us for six months. We told him we would have to talk to Margaret, and of course would have to find out about all the arrangements. So we did talk to Margaret. She said that she had explained to him many times that it really was not feasible to take him to New York because he wouldn't like living in a New York apartment, that it would be no fun at all for him, that there would be nothing for him to do.

She thought that our environment would be practically ideal, that he would have his own space, that he would be near the ocean, which would mean a great deal to him, and she thought it would be a wonderful adventure for him. She also had some cautionary advice; "Always remember, he could be so homesick as to make it impossible. He could be ill, very ill. He could even die."

You've taken this responsibility and you have involved yourself in the relationship with the village. She mentioned that he could also get involved with women. [laughs]

Hughes: Which was not unknown in his past.

Roll: Which was not unknown in his past. [laughs]

We said that we were willing to take a chance with all of those circumstances. This was before the independence of Papua New Guinea. It was still a mandated territory administered by Australia. That meant an incomprehensible amount of red tape. I

have a large looseleaf binder full of the correspondence and the papers reflecting all the things we had to do. One of the most difficult parts of the procedure was persuading the Australian authorities that we were proposing a feasible project. They couldn't believe that we didn't want to take him as a servant. They wanted to know how much were we going to pay him. They finally got it through their heads that we weren't going to pay him; that we were going to pay his expenses; that he was going to be a member of the family, for whom we were going to be completely responsible.

I think without the help of the then district Commissioner, who was an Australian, we would have been unable to make proper arrangements. Incidentally, when Papua and New Guinea were an Australian-mandated territory, before they had provinces, the political divisions were districts. There was the Trobriand District and the Morobe District and so on. This was the Manus District.

Allan Gow was on the last leg of his service as an administrator in Papua New Guinea. A sweet, dear, person. He and his wife and Scott and I became very good friends. I have a remarkable correspondence with him too. He got very involved in all of JK's family arrangements, his problems with his middle daughter, for example. Finally, Allan managed to get JK the needed exit permission from the territory. He managed to construct a passport for him--unknown birthday and all. Of course, unknown dates of birth were almost universal among JK's contemporaries. We had to get a photograph of him, of suitable size, for a passport. An incredible amount of detail.

Hughes: What about clothing?

Roll: I went home via Hong Kong--so I bought him a pair of gray pants of very lightweight wool. We sent him one of Scott's jackets, which was a little spacious for him, but not bad. I suppose we sent him socks and underwear. I gave him money to get some shoes. We had to really fit him out.

I wrote these letters. I wrote a letter "To whom it may it concern." I wrote a letter to the Department of Immigration. I can't think who the other one was to--explaining who he was, that he only spoke Pidgin, that he did not speak English, that we would meet him in San Francisco.

Many of the Qantas flyers and other personnel had had their training in flying around New Guinea. It was considered so dangerous, that it was a wonderful place to train them. So there were many Pidgin-speaking people available, who looked out for JK.

One of them, whose function I don't know, looked out for him on the first leg of his trip. JK had to stay in Brisbane overnight, so this nice Australian took him from the airport to a hotel. Qantas got a room for him. He took him up to his room. He tried to explain the elevator; JK had never seen an elevator in his life. He told him that at six o'clock he could go down and have supper in the hotel dining room, that it was paid for.

JK left his room and found the elevators all right. Then he didn't have a clue what to do to summon the elevator. For years after, he told the story about the old lady who came and rescued him. She didn't speak any Pidgin but she got the picture, and took him down in the elevator. The Qantas man came and picked him up in the morning and got him back to the plane. It was a marvelous tale.

We met him in San Francisco and worried about him all the way. It seemed to take forever for him to come through Customs, so of course we wondered what was going on. We could see him in the San Francisco airport, in that pass-through. He got off that plane as if he were a foreign dignitary--head high, beautiful carriage, and looked very nifty in his Hong Kong-derived wardrobe. He had a necktie too. He looked marvelous. He finally emerged from Customs. He said he'd been scared to death, which I found dubious. He managed to carry the whole thing off.

He adjusted immediately. He had his first adventure the first morning he was here, when the local television news came out and interviewed him. The first time he ever saw television was seeing himself.

It was remarkable. He ate everything. I kept saying, "JK, if you don't like our food, you eat what you like and don't eat anything you don't care for." He said, "Sopos yu laikim, mi laikim tu." (Suppose you like it, I will like it too.) Very simple. So everything was a success, from the word "go."

He wanted to do some wood carving. I took him out to the college with me whenever I had classes--which was twice a week. I talked to Jerry Wright, the black anthropologist I mentioned, about selling JK's wood carvings. Jerry and I decided that with his connections with Margaret, he could do rather well. So we established prices. A full-figure carving about eighteen inches high would bring \$100. A half-figure would bring \$50, and on down to paper-cutters and letter-openers and shoehorns and things for \$5--student level.

It was an instant success. JK ended up with almost \$2,000. He paid his own ticket back with it, and took great pride in that.

When he got back to Australia he bought a wool suit. I've often wondered what happened to that! Of all the things you wouldn't want in Manus, it would be a wool suit. We also know he used most of the balance to give a party for the whole village. He was that kind of a man.

There were many side adventures, like finding wood for him to carve. One of the students at the language school [Monterey Institute of Foreign Studies, now Monterey Institute of International Studies] read about him in the paper and called me and asked if he could meet him. He was Steve Bean, who was interested in survival in the wilds without any or very few modern tools. We presented Steve with the project of finding a source of suitable woods for carving. He said, being a real scavenger, that he often went out on the Marina beach--a long stretch of rather deserted beach near Fort Ord.

Steve himself went out there looking for likely pieces of wood for projects that he was always going to do but didn't, I think. He had identified some of the pieces of wood as Philippine mahogany, which he thought probably were part of the crating material that washed off ships. Heaven knows what they were. We even found two or three pieces that seemed to be rosewood. I have a carving JK made of the apparent rosewood. All of the carving that JK did here was from wood that we picked up on the beach. JK took his jackknife along and cut little pieces off the wood to see what was underneath.

Among other things, he found a long 2" x 6" piece of Philippine mahogany from which he carved a tchinal, which is translated into "dancing pole." It's the piece over the living room steps. The original tchinals are carved out of a log which is probably at least twenty feet long and about a foot square. It may have carvings of dugongs and crocodiles and birds and so on. These tchinals are elevated on sturdy forked posts, about four feet from the ground.

Suppose a girl in the village was betrothed to a boy in a neighboring village. All of the dignitaries in Pere came out and stood on the tchinal to welcome and also to tease the family of the groom from the other village. It was also an opportunity to display the dogs' teeth that were brought as bride's price. It must have been a splendid ceremony.

JK made this small replica for Margaret to welcome her when she came out from New York to see him here. We went through a remarkable ceremony in which JK presented the tchinal to Margaret. First he had to go with us to the airport to meet Margaret. When we came home we had to let him out of the car at the gate so he

could be ready to welcome her at the front door with his tchinal. He gave us explicit instructions well ahead of time. He was a man of infinite imagination who always had an inventive approach to whatever happened. He knew just how to make much of Margaret's coming out here and of their meeting in America.

Hughes: She loved every minute of it.

Roll: Yes, indeed, she loved every moment of it. He was here when she went to Berkeley to receive an honorary degree. This was another rather wonderful occasion, on which we sat in the Greek Theater where they have commencements.

This was 1969, which was in the middle of the Vietnam War. The two most humorous parts of that ceremony were when Margaret came out to receive her honorary degree, JK stood up to cheer. He was very conspicuous when he shouted, "Oorah!! Markarit! Oorah!! Markarit!" I personally was even more entertained by the students behind us, who had in their laps--I suppose they were about 8-1/2 x 11 white boards--which turned face down looked perfectly harmless. They periodically turned them over to spell "UP YOURS, REAGAN! [laughter] An extraordinary sight. It was a remarkable commencement ceremony.

Afterwards we went to the anthropology department and had a little symposium at which Margaret introduced JK. One of the people there was Theodora Kroeber, who wrote Ishi. Margaret and Theodora made much of some similarities between Ishi and JK, and also discussed some of the interesting differences: for example, that JK got so that he could understand us, and understood a lot about what was going on in our culture.

After that we went to a cocktail reception at Professor Mandelbaum's house. He was an anthropologist, Margaret's sponsor for the honorary degree. Margaret told me he had been obsessed with the idea of her having an honorary degree from Berkeley. They had offered it to her several times and she'd said it was inconvenient. Finally she found a convenient time to receive it. JK kept saying, "Can we go home now?" [laughs] And Margaret said, "I might have known they wouldn't have a decent drink of Scotch." [laughs] It seems to me from there we put Margaret on the plane. Neither Margaret nor JK had approved of the party. JK said he really did not think that was a very good party, that he liked the parties at our house better.

This is fairly typical of the kinds of things that went on. He lived with us for six months.

Hughes: Did the students respond to JK?

Roll:

The students were mad about him. Remember, this all was going on when the Vietnam War was at its worst, and there was conspicuous unrest among the black students. The black there was so upset with him; they thought he was wonderful. He thought they were wonderful too, but he couldn't understand what they were so upset about. He was clearly aware that there was real unrest. But he didn't see why they thought they had problems and why they themselves were a problem. He was never self-conscious about his own blackness.

Hughes:

Did he feel any particular bond with the American blacks?

Roll:

Oh, yes. He liked the idea they were black, but he didn't understand why they were hostile or what they were worried about. One of them gave him some pot, which he loved. There was a black in my anthropology class, who was from the East Coast somewhere; been a high school dropout. He was probably twenty years. He had had served his time in the army, probably about JK. He eventually married a Japanese girl and had four or five of the most beautiful children I have ever seen. He got his BA and went on to get a master's in sociology. A remarkable guy. He was also a fine jazz musician, a pianist and a drummer.

This brings us to another nice Manus word, garamut, which is a slit drum. The Manus and the people all over New Guinea have slit drums. They are hollowed-out logs. I don't know how they are used elsewhere in New Guinea. On Manus each big family had a tattoo pattern. It's like having your own song. Each family used its own tattoo to communicate from shore to the canoes. They used them to communicate for my students. My black families, call their children home. JK knew the notes on a tent, Joe Gray, was so intrigued that he wrote the notes on a tape of music. I have copies of these and tapes of the garamut notes.

Joe Gray became very attached to JK. He repeatedly told me to take him "out on the town" in Seaside. When he came with this suggestion, I said, "No, no, Joe." He said, "But I'm very frustrated, but I haven't ever heard of any fatal men." [laughter] JK knew precisely what was going on. I said, "You know, I hate being lied to and it was just as well to be in a trap."



Roll: We took him to Yosemite, which fascinated him. He took a long string and measured the circumference of the famous giant redwood tree. He took the ball of string home, where he delighted in demonstrating the size of that redwood tree: "The tree is this big!" he said.

Hughes: That was his idea?

Roll: Oh, yes. He was full of his own initiatives.

He went down to La Jolla and visited Ted Schwartz for a couple of weeks. But otherwise, he did not see anything either inside or outside of California. We took him up to Lake Berryessa to my sister's, where he managed to get all the way up on water skis--but he didn't stay up long.

He didn't travel very far, but he got the picture. His adventures gave him a lot of variety, no question about that. An exceedingly interesting aspect of his character and behavior was that he was eager to go home--although I think he was never homesick.

There was one point when his very close friend and biological cross-cousin, Petrus Pomat, was said to be ill. JK thought that he might even die. He told us he thought he should think about going home, that if Petrus should die, he ought be there.

I must have shown you the wonderful long letter he wrote to Petrus, about the walk on the moon.

Hughes: Oh, yes.

Roll: A marvelous thing. He brought this letter up to me all written in Pidgin. Incidentally, he had very nice handwriting.

Hughes: Where had he learned to write?

Roll: He learned to write and to read Pidgin when a Catholic missionary came to Manus, probably two or three years after Margaret left in 1928. He told me, and I guess it's probably pretty accurate, that he studied with this missionary for six months. There must have been a little brushing up afterwards too. Except, of course, their dexterity is such that they learn things faster than we do--and sometimes, better. In any case, he was a grown man in his twenties when he learned to write. I have quite a collection of his letters.

Hughes: And he could read too.

Roll: And he could read Pidgin, yes. He said he couldn't read English, but I think he understood quite a lot of it.

Hughes: When Trevor [Hughes] and I had dinner with him, we had the feeling that he was involved in everything that was going on and being said.

Roll: He understood a lot of English, no question about it. I'm not quite sure why he wouldn't make the effort to learn it. I think he rather liked the distinction.

To end discussion of the first visit, he went home after six months, eager to go home. I think that it gave him the new and different kind of status in the village that he anticipated. I think he foresaw it, and I think he enjoyed it greatly.

#### Second Visit

Roll: Then exactly ten years later, he told Fred and me that he would like to come back to America. This was after Margaret had died. He wanted to see where Margaret had worked and lived in New York. New York was another feature of America that he had firmly fixed in his mind. He knew he wanted to have that experience.

We finally said, "All right. If you really want to come, we'll do it." This time it was not very difficult to make the arrangements. Papua New Guinea was an independent nation now, with an embassy in Washington and a mission at the United Nations. And he, after all, was a citizen of a free country, not a colonial ward. It was quite easy to get him his passport, although there was a little fol-de-rol about the photograph. Of course, by this time, he was not anywhere near as robust as he had been ten years before. We were a little concerned about his health.

Hughes: How old do you suppose he was?

Roll: I'd say that in '79 he was about sixty-five. He died in '87 and we think he was seventy-five or -six. Not old by our standards, but by theirs, very old. He was regarded as the oldest man in the village. Actually, there were two or three others who were the same age. Yesterday I was thinking of one of them who was undoubtedly his age-mate.

JK had arthritis in one of his knees and complained a lot about it. Although he was limping around a good deal of the time, we thought, "Well, all right, if he wants to, let's do it." Some

of his relatives felt that that was a bad move. They were worried about his dying over here.

We brought him over in May [1979], when the weather was pleasant. He spent about three weeks with Ted Schwartz, perhaps a month. While he was there he helped to teach Pidgin to some of Ted's graduate students.

Hughes: Was that when he worked on the dictionary as well?

Roll: Yes, he helped Ted with his dictionary of the Manus language, as he had before.

It turned out that he was ill here. One morning he appeared with a swollen ankle and foot--very edematous. We were just about ready to leave for New York. We took him down to a local doctor who gave him a diuretic which relieved the symptoms. The diuretic had a side effect of producing symptoms like gout. When we got to Philadelphia, through various connections of Fred's, we got an appointment with a doctor at the University of Pennsylvania Medical School who recognized what the problem was. He prescribed a medication to relieve the gout symptoms.

A summary of the medical conclusion was that lifelong repeated bouts of malaria had damaged and enlarged JK's liver, which in turn produced various unpleasant symptoms. There probably were all kinds of other things too, which would require a complex workup and probably wouldn't make a substantial difference in the long run. Whatever the medications were, which I have now forgotten, we supplied him with enough for the rest of his life. He had his ups and downs, even while he was over here, but he managed in spite of everything. He was always cheerful and got along pretty well.

We did take him to New York. He did see Margaret's office. He also saw the hospital where she had died. He visited the American Museum of Natural History and sat at Margaret's desk in the tower. He presented the museum with a string of kinas, the coin of the realm of Papua New Guinea. He had collected sixty of these coins, which were designed after the old English and then-Australian shillings, with holes in the middle.

JK and I tied the kinas together in a long string. At the opening of the Margaret Mead Film Festival at the Museum, he presented the string of coins to the director of the museum in Margaret's memory. They are in the Hall of the Pacific, which I guess is now called the Margaret Mead Hall, come to think of it. They're on display at the entrance to this big South Pacific display.

JK made a presentation speech to about six hundred people, in Pidgin. Everyone understood him perfectly--or thought they did. Several people said wasn't it wonderful that he gave all those beautiful gold coins to the museum. They really are made of an amalgam of dross metal. [laughs]

Hughes: How did he like urban American life?

Roll: He didn't really see much of it. What he did see was mostly hotels. JK always took everything for granted. I never knew him to show any signs of being flapped. He always made me feel a little gauche. [laughs] A man of infinite poise.

Hughes: I wonder how he got that way.

Roll: I have seen no evidence of it anywhere among his many relatives whom I have known. He's unique.

#### Death, 1987##<sup>65</sup>

Roll: We continued to go back to the village every year. Of course JK was obviously growing frailer, but always alert, full of joy. Age did not dull his wits, ever. We have touching photographs of him, which show him fading, and show he still had a smile. So many unpleasant things had happened to him that it always astonished me that he could be so philosophical about the whole thing.

I often think that one of the frustrating things is not really having intimate acquaintance with a common language. I have a strong feeling that JK knew that he had had an unusual life, that it was different and more exciting and more fun than the lives of his age-mates--or anyone else, really. I certainly thought I saw the look in his eyes, and I thought that he was philosophical about the pluses and minuses.

Hughes: Do you think he looked upon himself as important?

Roll: Oh, yes, you bet he did. He said things that made me know that oh, yes, he knew he was a big shot.

Hughes: And was he treated as one by the villagers?

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<sup>65</sup>For better topicality, this and the next subsection were moved from their original position later in the transcripts of this interview.

Roll: Yes. Especially as they talked about him and referred to him. Oh, yes, they paid attention to what he said. He had a way of arriving on the scene at a crucial moment and helping to decide issues one way or another. He played a very important game behind the scenes. You couldn't be in the village without feeling that he was important. That's the kind of role he had.

Let's see, he died in 1987, so he lived for nine years after Margaret died. We knew that he was fading, and each time for the last three or four years we always thought we probably would never see him again. So when we were in Pere in 1987, in May, we said goodbye to him. We knew it was goodbye, and he knew it was goodbye. There was no question about that.

Francis Tanou, who was then the Speaker in the provincial parliament, a middle-aged man from the village, had always wanted to come to this country. We invited him to come back with us. JK, we learned later, did not want him to go because he thought he would die, and Tanou was supposed to be on hand. They were related in some way that I do not fully understand. Tanou put great store in this relationship, but he also couldn't resist taking a trip to America.

He came home with us, and we hadn't been here a week or ten days when JK did die. At two o'clock in the morning JK's nephew telephoned us from Sydney, where he was stationed in the Papua New Guinea Defence Force on a special assignment with the Australian Army. Pwendrilei had just heard from his sister, who lived in Lorengau, which is the provincial capital, that JK had died.

There we were in the middle of the night, with Tanou peacefully sleeping in the guest house, with all kinds of plans made for him. Fred was going to take him up to Sacramento and introduce him to Willie Brown, which I think would have been fun. Tanou wanted to know how the government worked in this country, take back some pointers. We decided to let him sleep. When he did emerge and we told him that JK had died, we got a first-hand dose of Manus mourning. I never have seen anything like it. This huge, muscular, cheerful man just fell apart. He said, "Oh, JK! Ohhh, JK!" He wept, and he wailed. And he said, "I've got to go home immediately."

There we were with a real crisis on our hands. We called Ted Schwartz and said, "Ted, you have to go back to Pere with Tanou, and be there for JK's ndrin." The funeral was obviously past. So Ted and Tanou went. They were there within a week of his death. Ted described it later as a traditional mourning for a great chief. It was as if his death had restored him to the rank that he had when he was growing up as the heir to a chief.

### Family Background

Roll: JK was fascinating for many reasons. One was the circumstance of his birth and adoption. His father died when he was about two weeks old. The next chief, whose brother was dying, had no children. He and Lomot, his wife, adopted JK when he was a several-weeks-old baby. His natural mother eloped with a man in the next village.

In their culture, an adoption confers all the rights and privileges of a biological offspring. So JK was the heir apparent to the head of the ranking clan, which was to have made him the number one man in the village. He was brought up with that prospect. When he was in his teens he learned who his natural mother was and got acquainted with his five half-brothers and -sisters.

When JK was an adult he not only knew who all the members of his adoptive and biological family were, but identified with both sides. As an adult, he loved to play the two clans against each other. He was wonderfully adroit in this. When he was angry at his foster brother, Karol Matawai, of Pere Clan, he took refuge with his family who belonged to Matchapar Clan. Karol was furious when these occasions occurred, because he thought of JK as his "real" elder brother.

I should mention that Talikai, JK's adoptive father, also adopted Karol Matawai, who was actually Talikai's brother's son. This was when JK was about sixteen years old. This aspect of JK's family history was so complicated that I realized I must have a computer to record all the details. I found out a great deal about tangled webs.

For example, Karol Matawai has nine or ten half-siblings, half of them by his biological mother and half by his biological father with another wife. Eventually one's head spins as it becomes apparent that it is impossible to memorize the interrelationships.

Ndrin, 1987

Roll: In any case, when Ted and Tanou arrived in Pere, the funeral had been held. Now they had the ndrín. The one for Scott was very

informal, friendly, not mourning. For JK they went through the whole gamut of ceremonies that are traditional in an ndrin, which includes the contributions of money and goods from the various sides of the family.

I must confess that although I have been to ndrins I have never quite understood what was going on. I can tell you a certain amount of money is allotted to the widow, and that the various people that helped to take care of the deceased get various things. It's very complicated.

I have a wonderful photograph of JK and Margaret at the ndrin for Lokes, who was another of Margaret's five boys in 1928. This is 1971. JK is sitting on the floor with a considerable amount of money laid out in front of him. Margaret is sitting on a chair, with JK at her feet. He had a nice white shirt on, and obviously he had just turned back the cuffs, to enhance the grace of his hands. He never missed a chance for a graceful gesture. Margaret is sitting there pen and pad in hand, writing it all down. I was thankful I was only photographing.

One of the things that happened at JK's ndrin was that Teresia, who wrote the ndrin for Margaret ("composed" it is a better word), composed one for me because I was not there. I have it, of course. Ted translated it for me. The gist of it is JK talking to me: "My sister, why weren't you here? You were so far away," and so on. "I know that you would have been here if you could." It's an extraordinary example of a village view of oneself.

I suppose the meaning of all this is that in a very touching and very real way, the village has incorporated Margaret and Scott and Fred and me and Ted into their mythology. It isn't just that we are regarded as friends; we are actually part of their mythology. Now they keep saying to me, "Oh, boy, the ndrin we're going to give you...Don't rush." But they talk about it, and they are recapitulating the whole thing.

The young, literate ones write to me and say, "JK was our great man. He was the link between Margaret and the new world. Now we'll forget who we are because we won't have anyone who remembers everything the way he did." It's really quite extraordinary. What I said a little earlier about his coming into his own after he died is being expressed in letters like this.

Hughes: Is there anybody to follow him?

Roll: Not as significantly, although there are some sources. We tend to find an informant and forget that there are other people that know

things too. For example, Teresia, who did the endrilangs, has not been used a great deal. And she knows a lot, an awful lot. So does Matias Sori, JK's cousin, and Mikail Kilepak, who is not a relative of JK's. Mikail is only four or five years younger than JK. He's a pretty old man too.

Hughes: So the history won't entirely die.

Roll: No, but we certainly have lost an awful lot of the rich details.

### Mourning Ceremonies

Scott Heath, 1975

Hughes: Is the next step to talk about the mourning ceremonies for Scott and Margaret?

Roll: Yes. I guess we begin with Scott. When Scott died in 1974 and was cremated, I had his ashes here in the house. I knew what I was going to do, but I hadn't done it yet. In fact, we had the ashes of Scott's father in the house for more than a year. It may seem strange to many people, but there's something rather nice about that kind of a presence. We did not have him in an urn, but in the plain, sturdy, rather pleasing box that the crematorium provided. Scott buried most of his father's ashes under the oak tree out here in front of the house.

So, a year after Scott died, when I was going out to New Guinea with Margaret, I had decided that I would bury Scott's ashes likewise under the big oak tree. I did this, but I kept a small plastic bottle of ashes to take out to Pere. I realized that they were going to have a formal mourning for Scott when I returned to the village. I had the feeling that this would bring closure on that episode of my life.

I left the end of June, and got out there about the first of July. JK met me in Lorengau with the canoe. On the way out to the village I told him about the ashes that I had. He called them "bun i bilong Scott" (Scott's bones). He immediately grasped my implied wishes and took charge. He was a wonderful planner; I've never seen anything like him. Instantly, he said, "Well, you shall have a funeral. When we get to Pere, the women in my family and clan and those who knew Scott will be at the house to cry with



you for Scott." This was Margaret's house, the house in Pere she always lived in.

About fifteen women very simply enveloped me. It's really quite an experience. There is a ceremonial wailing. It is obvious they know exactly how long it's going to last. They know when to stop. Suddenly it's over, and that's it.

Hughes: After how long a period?

Roll: Oh, it must be ten or fifteen minutes, I suppose. It seems longer. I'd also anticipated that there would be distribution of sticks of tobacco, which was a part of all ceremonies.

This terrible tobacco called Louisiana twist consists of sticks of tobacco about eight or ten inches long which they whittle into small bits. They smoke it wrapped in newsprint, which gives me cancer of the lungs to think about.

Hughes: And it comes from Louisiana?

Roll: No, but I think that that way of treating it probably originated in Louisiana. It's now made in Australia. Now most of them smoke standard cigarettes if they can get their hands on them. Tobacco in the form of sticks is still around though.

Hughes: Both sexes smoke?

Roll: Oh, both sexes. I might add that they have lots of respiratory difficulties, which certainly must be related to their use of tobacco. It's a horrible habit. However, I always anticipated the need for sticks of tobacco for bartering for fish and bananas and so on, and also on ceremonial occasions. There doesn't seem to be a lot of sense in trying to change their deep-seated, long-established habits.

On this occasion, JK knew where the tobacco was, so he tore off an appropriate number of sticks of tobacco which he divided among the women who had been the designated mourners. Then he said, "We will have a meeting about the funeral."

Two or three days later, he said they had been discussing it, and had decided Scott's cremated remains should be buried out across the square from the house. The house was on a square, the square in the middle of the village. This was just exactly in the middle, actually. There were two basketball hoops out there. The children played games in the square. There was always lots of traffic going back and forth. Across the square was the village

church, which was an open structure, and also an open meeting house. These are thatched structures.

Out in front of the meeting house, directly across from our house, there was a cement plaque commemorating self-government, which had been declared in 1972. This was 1975. JK had decided that Scott should not be buried up in the cemetery, which was a mile away, but out in the middle of the village, next to this already existing cement plaque.

Very soon JK's brother, Karol Matawai, appeared on the scene with a small box. He put the plastic bottle inside the box. Then Karol said that he needed some "bilas," which is Pidgin, meaning decoration. They refer to strings of beads or any kind of adornment as bilas. I knew what he meant. I found the sash of a dress. He made it into a cross and put it on the box. They are extraordinary people. I was then instructed that we would have the funeral ceremony this afternoon. I was to go to the back of the line with Siska, JK's wife. I was to take my camera and a tape recorder. Everyone seemed to have a role. I knew I was to follow instructions.

The procession originated about a block from the house and proceeded to the site that had been designated for the burial. There was an old boy named Bonyalo, a part-time minister, who gave a eulogy. He was followed by their equivalent of a mayor, Francis Paliu, who gave the real official eulogy--and a very gracious one of which I do have a tape. He thanked me for bringing these bones of Scott's, and talked of how much they liked him. A touching performance. They buried the box and the ceremony was over. An extraordinary experience. Scott had never wanted a funeral and I certainly don't like funerals. But this seemed perfectly appropriate.

Afterwards, JK told me that they were going to invite eight women and sixteen men who represented all of the clans in the village. The idea was that the "big men" of the clans would come to our house for what they called an "ndrin"--a Manus word. An ndrin is a ceremony which takes place at varying intervals after a death. Often, if a person in Pere dies on an island somewhere else, and the main survivor comes back to the village maybe six or eight months later, they have an ndrin. Sometimes it's just a few days after the death. An ndrin is really pretty much like a wake. It's very nice.

JK said, "Now, these people will come just to talk about Scott and tell stories. It's going to be a nice, happy occasion." The first thing they said was, "We want to be sure that just the people that we have designated come. Would you please type out

their names, and we will distribute the papers like invitations." So I quadruple-spaced a big sheet of paper with tabs, with the names, and then cut the little strips out. They all duly arrived, and the biggest shots sat around the table with me, and the lesser ones sat on the floor. The women, of course, sat on the floor.

Hughes: Were these people that had known Scott?

Roll: Oh, yes, they all knew him.

JK asked if they could have beer, and I said yes. "Maybe two beers each?" So I said, "All right, two beers each." Finally, after we all got assembled, Francis Paliiau said, "Could we each have one drink of whiskey?" by which they meant vodka or whatever I had. Anyway, they all assembled. My next-door neighbor, Tomas Chokal, made a little opening speech in Titan (their own Manus language), which I had translated later. In effect he said: "Now I want all of you to behave. Nobody is to get drunk. If anybody gets drunk, out he goes, and goes home. This is just a gathering to talk about Scott, and we are all friends." In other words: "Mind your manners!" It was a nice, friendly little gathering. A wonderful experience.

Hughes: Is alcohol a part of their ceremonies?

Roll: No. This is another of our dubious contributions. First tobacco and then alcohol. And it's become somewhat of a problem in the course of time. It was not a happy addition. They have no native alcohol, which is interesting. It's one of the few cultures that never invented alcohol. They have betel nut instead, which is not as strong as alcohol.

Then they wanted me to tell stories about Scott--how Scott and I met, what we did together. Really, they are a lovely, warm people.

I should explain that I was there alone in the village when all this took place. When Margaret arrived, I brought out the tape of the eulogy. Margaret said, "I think we must translate that." So she asked JK to sit down and translate the eulogy from the Manus language to Pidgin. I have all of that.

**Margaret Mead, 1978**

Roll: I suppose we go from there to Margaret's death, don't we? Margaret died in November 1978. When Margaret died, we cabled JK,

and sent Francis Paliau, as the head of the village government, another cable.

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Roll: Francis Paliau, I think, was the one who sent us a cable indicating that the village was going to mourn for Margaret for a week, that they had planted two palm trees in her memory. Incidentally, they are now big palm trees.

We realized immediately that they were going to mourn Margaret as they traditionally mourned a great chief. We knew that we should be there. So we called Ted Schwartz and said, "Come on, with us. All three of us must be there." This was not a convenient notion because he was chairman of the anthropology department at UC San Diego and supposed to be doing a lot of things that did not include flying off to the South Pacific.

We got ourselves together, and arrived in Pere the first week of December. She had died on the sixteenth of November. Really not a very long time after her death.

When we got there they had completed their immediate mourning, which consisted of interesting features that were new to me. JK, I am sure, was the one who arranged all of the formalities. First of all, he had recruited between twenty and twenty-five women, all of whom had known Margaret, and all of whom had some connection with him. I'm sure there were elaborate reasons for this that I don't know about, and not being a cultural anthropologist I've never been terribly curious about it. My mistake, and my loss.

These women gathered in Margaret's house, and JK and an appointed support group brought them rice and sago to nourish them while they were residing in Margaret's house for a week of mourning. In that group there were three women who had the most to do with composing the endrilangs, which they chanted in their mourning. The endrilangs are stylized chants that they repeat along with their wailing. It's exceedingly interesting.

A senior woman in the village, Teresia Nyalawen, is looked upon as the most skillful writer of endrilangs. This is all a little complicated. When we say "writing" in this connection, we really are talking about an oral composition put together for chanting. When they say "writing," they mean "composing." By "composing" they mean putting words together to remind themselves of the person being mourned. Ted Schwartz has a wonderful description of endrilangs.

Hughes: He must have been very interested in this.

Roll: Oh, yes. He taped it all, and we taped some. Then Ted transcribed the endrilangs into the Manus language, into Pidgin, and into English. I have copies of several, with the three lines interlarded so that there's the line of the original, what it means in Pidgin, and what it means in English.

Hughes: Wonderful.

Roll: They really are fascinating. It's an elaborate piece of ritual that I don't understand, really. It seems to consist of an elaborate way of remembering a deceased person of importance without using his/her real name: Instead of mentioning Margaret by name, they use the name of someone that Margaret knew well. They know from the context it really means somebody else. Very strange. Of course, Ted is the kind of specialist who understands exactly what is meant and what all the symbolism is.

Some of it went like this: "Margaret, you came and lived with us, and then you went away. You went to New York. Margaret, we thought you would never come back. Margaret, you did come back, but you forgot us in between." And then they talk about the fact that she made money from her books. Everything that has gone through their heads in connection with Margaret comes out in the endrilangs. They do pretty much the same thing about their own people. In a way, it is as though they were reviewing the pluses and minuses.

Hughes: So it's not strictly a eulogy?

Roll: Well, not in our terms. I think they regard it as a eulogy. If you're remembered, it's a eulogy, I think.

This discussion reminds me of how fascinating I find it to think about how differently three people, all of whom have a fair understanding of the Manus culture, view a part of the culture like the endrilangs. I'm sure that if Ted Schwartz and Margaret and I interpreted the contents of an endrilang, you wouldn't think you were listening to the same composition. If you had just listened to Ted, you would think I didn't know what I was talking about. Probably you would be correct. I don't think that I'd fully understand an endrilang, even if I knew the language. What they're thinking about is too much for me. Now, Ted thinks he knows what they're thinking about. Well, no, he doesn't. That's not fair. He knows that that's pretty hard to do, but he certainly thinks he knows more about it than I think I do.

The mourning for Margaret consisted of all the parts I've mentioned. They repeated all of these endrilangs for us when we arrived. We taped them, and Ted transcribed them.

When we came, they greeted us as they had greeted me to mourn for Scott. All three of us were smothered in a mound of weeping women. And they really weep. This is what I wasn't so sure of. They were really in mourning. Because they seem to turn their emotions off and on so suddenly, I failed to appreciate the depth of their feelings.

Hughes: So there is real feeling. It's not just a ritual.

Roll: Oh, there's real feeling. But it also is a catharsis, and I think they know that, because they stop so suddenly. When someone mentions a person who has died, they often weep. It's interesting. They're people of considerable sentiment, there's no question about that.

#### Margaret Mead Community Center, Pere Village

Roll: We stayed, I suppose, ten days or so in the village on this occasion. While we were there, JK, with two or three other people, came to us and said that they wanted to name the community center for Margaret. The future community center was about three-quarters finished. It was being built with funds from the provincial government, plus some funds that were raised in the village. There was no real prospect of finishing it. It needed gutters, it needed louvered windows. The openings for them were all there. Of course, in that climate it wouldn't have made so much difference whether there were windows or not; it was for the protection of it. And they had planned some benches to sit on because this was going to be a meeting house for the village.

Hughes: Where did they meet before that?

Roll: They had what they called a "haus miting," which Margaret had built for them some years before. It had a dirt floor and a low wall about four feet high that ran all the way around it. It had a roof about ten feet high, of palm thatch. These palm thatch structures are fragile and only last four to five years. Then they need to be rethatched, if not rebuilt. The meeting house Margaret built had pretty much fallen down. Actually, I think by this time it had been torn down completely. They were beginning to use the new structure as it was, unfinished.

It was not an entirely stupid idea to want to call it the Margaret Mead Community Center when we, the suckers, were there.

Hughes: Do you think that was the motivation?

Roll: Oh, partly, certainly. They knew that we were likely to help them, which of course we did. We pledged, I think it was \$1500, to finish it. So then they began making plans to dedicate it a year later. They also began to make plans for a big celebration and dedication. In the end, several of our friends also contributed money for it.

Hughes: So the \$1500 didn't quite do it.

Roll: Well, no. We were grateful to be able to share the completion of the project.

Hughes: I can understand that.

Roll: Fred thought of getting together photographs of Margaret in the village to hang in the center. We got all of the negatives of early photographs we could. For a lot of them we could find prints only. Fred had negatives made of the prints for which we had no negatives, and made prints from them. We ended up with between thirty and thirty-six photographs which Fred printed archivally. He got special frames that had some ventilation to protect them somewhat from the humidity. It's a tough climate.

Then we had to plan how we could actually be present for the dedication. We persuaded Rhoda Metraux and Mary Catherine Bateson, Margaret's daughter, to come. Cathy brought her eleven-year-old daughter Vanni, who was named Sevanna Margaret. Cathy's husband is an Armenian named Barkev Kassarjian. His family are Armenians from Lebanon who have lived in this country for some time. Barkev had a remarkably high record at the Harvard Business School, where he got their advanced degree, whatever it is. Barkev is a most engaging and lovely man; I'm charmed with him.

Ted Schwartz also went with us. Six of us went to Pere for Christmas of 1979, a year after Margaret had died, to dedicate the Margaret Mead Community Center. We all lived in Margaret's house for ten days.

#### Mead's House in Pere Village

Roll: Margaret's house was first built, I think, in 1964.

Hughes: Where had she lived prior to that time?

Roll: In 1928 the village was built over the water because all of the south coast people lived in houses on stilts over the water. This was the case because they were not on the best of terms with the Usiai, the people who lived inland. They kept a safe distance, did bartering and so on with them, but they were not friendly. Meanwhile, the Germans and Australians had put an end to warfare between the Manus and the Usiai. After the war, Pere Village and the other villages along the south shore moved ashore, quite near where the old village was.

For reasons which are somewhat obscure to me, the people of Pere decided to move the village from the first site where they had moved it onshore, and went downshore about a mile. These sites became known as Pere 1, Pere 2, and Pere 3. In the early 1960s they moved down the shore. At that time Pere amalgamated with its neighboring village, Patusi, to make one village.

I think Margaret had some input. They wanted to know how to build a proper village that had a village square and a village street. Margaret was given a place to have a house in the middle of the shore side of the square. Pere 3 was strung along a beachfront on the lagoon. The lagoon was about a quarter of a mile wide from the shore to the reef, and thus protected the village from the sharks outside the reef in the deep sea, this being the Bismarck Sea.

Margaret built a house which, when I first went there in 1966, consisted of one fair-sized room which was perhaps fifteen by fifteen feet. It had only one little cubicle bedroom. Out on the back side of the house there was a semi-detached room known as the "haus kuk," a combined primitive kitchen and store room. A covered walkway led from the "haus kuk" to the rest of the house.

Hughes: And that was a common Pere arrangement?

Roll: All the houses were built like this. In effect, the back entrance to the house was via a short ladder that went up into the kitchen area. At the front, on the village square side, there was a short stairway into the living room. It wasn't much of a house.

When I went back in 1968 and 1971, I succeeded, by letter, in getting JK organized to change the house so that there would be two sleeping quarters. These were really cubicles about 8 x 8. They were small. When Scott came out in 1968 to join me for a couple of weeks there were two cubicles and a veranda that went across the front of the house. When Margaret joined Scott and me



in 1971, we could sit on the veranda and watch the people go by in the square. Margaret loved this addition to the amenities.

The interior separations from room to room were woven bamboo panels with a gap about four feet from the top to the ceiling. The privacy was limited. They had doorways without doors, so we bought inexpensive, thin, single bed sheets. We nailed these across the entryways.

In 1975 there were the two small rooms, so that Margaret had a room, and so did we, and there was a veranda. Then sometime before 1978, and I can't remember just when it was, I coned JK into extending the length of the house. It's very simple to do. You just add a few more posts and weave a few more dividers for the interior. The outside walls are made of palm fronds. The roof is thatched with layers of dried palm fronds.

Hughes: Which keep the rain out?

Roll: Oh, yes. And if it starts leaking, you won't believe the repair procedure. Whoever was handy--usually it was Kiapin, who cooked for us--Kiapin is a Pidgin word for captain, that he got stuck with as a formal name. As I started to say, if he was the one who was in the house when the rain began to leak through the roof, Kiapin simply crawled up the inside wall, hung onto the rafters by his toes and his hands, and moved the thatch around. [laughs] He said, "I can't tell where it's leaking until it rains." So the repair work went on, and occasionally, if it got to the point where there was a thin spot and manipulating the thatch didn't stop the leak, then he went out and got another branch or two or three, and laid them on the roof.

From the time Fred first went out to Pere, we have been there every year. So we had the house extended so that it had a veranda on the ocean side as well as on the square side, so we had two verandas. The detached kitchen had long since been incorporated into the house so that the cooking area was at the far end of the oceanside veranda.

Hughes: I see.

Roll: I'm sure you can. [laughs] On either side of the living room area were two sleeping rooms. So we had four of these semi-private--. I say semi-private advisedly. I have been known to get a little neurotic if subjected to too many people all at once, and here I was, with Rhoda, Ted, Mary Catherine Bateson, Vanni, and Fred, which is how many people?

Hughes: Five.

Roll: It seems like more. We were going to all be there for about ten days. I wondered whether I was going to survive. It was quite an operation, but we did all survive, and it worked beautifully. I think we took the pictures with us. Yes, I'm sure we did. So we had to put those up after we got there. With much pushing and shoving, the benches got built. They are long benches with backs on them made of planks that must be at least two inches, perhaps three inches, thick, of some kind of marvelous hardwood. They will endure like concrete. It's appalling to think of using such wood so cavalierly.

On the appointed day, by Jove, we had our dedication. The premier of the province came, and all his cabinet. They arrived with flags flying, an impressive performance. The village dignitaries welcomed them ashore. They had, as always, built covered speakers' platforms, covered with the equivalent of bunting, made from palm leaves stripped so they hang and wave in the breeze like a fringe.

Hughes: Lovely.

Roll: They're nice. They really are. All the dignitaries, both resident and visiting, took their assigned seats. Each visitor was introduced, and each made a speech.

Hughes: Were these in Pidgin or in English?

Roll: Some of it was Pidgin and some of it was English. The visiting dignitaries all spoke English. They were in their forties, so they were young enough to have attended village schools where they learned English. We even had a ribbon to cut. Margaret's daughter Catherine cut the ribbon, with the premier helping her. It was a wonderful ritual, symbolic of the changes since Margaret's first visit.

When I think back on it, I realize how remarkable it was that JK, who certainly had masterminded a great deal of the ceremony, had been the almost Stone Age teenager who had known Margaret for almost a half-century. I remembered how he left a month early from his 1979 trip to the United States to get back to the village, because he was so worried they wouldn't have everything completed on time. And yet he was not a master of ceremonies. He had a fascinating, subtle way of exercising his power. He did not ever have official power. His power was always unofficial. What a wonderful man!

The general feeling one had by this time was that Margaret was one of the ancestors.

Hughes: That's what they were trying to say?

Roll: That's what they were really getting at. The older ones reminisced about her early visits and all the things they remembered about her. In the endrilangs for her, they talked about how she came and lived with them in their houses. They slightly twisted the facts, but the gist was close to the truth.

Hughes: Please summarize the role that you and Fred played and continue to play in Pere.

Roll: I think I probably would not have been as intimately related to the village now as I am if it weren't that Fred took an equal interest in it, so that we became a team with mutual interests in the village. It would be impossible to impute purely material reasons to their desire to have us do things for the village. We do not resent it, in other words. One could. Margaret used to talk about how they were materialistic and so on. All people have their own way of seeking favor with people who are favorable to them, so that I can't criticize them for their pleasure in having us give things to them.

One thing that we did decide quite early was that it would be much better when we are giving things to emphasize what is of use to the village as a whole, and not to individuals. Like many people, they have a habit of saying, "I need fifty kinas." I am referring to people we didn't know very well. Finally we said, "Look, we're not going to give money to you as individuals. We'll make a few exceptions, but that's neither here nor there. We would like to do things that are for the good of the whole."

#### Scholarships for Manus Students

Roll: The first big project, of course, was completing the Margaret Mead Community Center. After that, we set up a small fund of scholarships for children to go to what is known as the Manus High School, a boarding school supported by the provincial government. It needs tuition and board to keep it going. The village schools take the children through what they call Standard 1 through Standard 6, which is approximately the same as our six grammar school grades. Those, of course, are free, and are supported by the provincial government. There are now three boarding high schools on the island of Manus. I've forgotten how many children there are in each one. There must be several hundred in each.

Hughes: Do the children come from a distance?

Roll: They have to live at the school. There is no transportation except by water so it makes sense that they board there.

There's not anywhere near enough room in these high schools to accommodate all the children each year as they finish Standard 6, so it's highly competitive. We have given board and tuition scholarships for a boy and a girl from the village school, and for a boy and a girl in Manus at large. The tuition has gone up a little bit since we started it, but it's not terribly expensive. I think it's somewhere in the neighborhood of three hundred dollars. Our scholarships are for a boy and a girl who have the highest grades in that year's grade six in Pere Village.

The qualifying examinations that they have to take are nationwide. All children in all provinces take the same examination. It's like our SATs [Scholastic Aptitude Tests]. The first boy, Manuai, that won the scholarship had the second highest score in the country. It is interesting that he was Teresia's, the endrilang composer's, grandson, the illegitimate offspring of her daughter. She, in turn, was the first student from the island of Manus to attend the University of Papua New Guinea, when it opened. She left the university, came back to the village, had her baby, who was adopted by her mother's brother.

One of the things that intrigues me about that story is that Manuai knows all about his own story. He knows exactly who his real mother is. He also knows who his real father is, a very successful Papuan in Port Moresby. Manuai has continued to do well. He is now at a national high school in Port Moresby and probably ready to go to the university.

Manuai's mother went back to the university, finished it, married someone else, has two more boys, who are equally bright. One of them has one of the scholarships now.

Hughes: A remarkable family.

Roll: They are a remarkable family. Nyandros, the mother, is one of seven daughters. All of them have at least finished high school. Three or four of them have finished university. They are something!

We called the scholarships the Margaret Mead Scholarships, and we have expanded them so now there are five of them given every year. We add to the funds each year as needed. Also, the Fraleys, who are friends of ours in Philadelphia, gave money for two more scholarships in my name. They started those the year after we did, and have continued them. They are for a boy and a girl from Pere village.

Hughes: Do you get to know the scholarship recipients?

Roll: We have met most of them, and we know who they are and have their names. In the case of those from Pere, of course, I either know them or I know the history of their families.

We also have given a slide projector and a VCR to the school in Pere and to the high school in Lorengau.

### The Future of Anthropology in Pere Village

Hughes: I think the next step maybe is to talk about the future.

Roll: Actually, our Pere friends have their minds on the future too. Last year when we were there a group of young people from Pere who live and work in Lorengau got together and asked for a meeting with us. They said, "We have some questions to ask you." One of them is a very bright young man who several years ago had an Australian scholarship at Cambridge University. He is now the deputy premier of Manus Province--and is very effective as a politician. He was the spokesman. He said, "What's going to happen when you're gone?" [laughs]

Hughes: That's putting it straight.

Roll: Yes, I'd say that's putting it straight. What they were saying was that they valued the relationship that began with Margaret so much that they hoped it would continue. We had been thinking about that, so we told them that it was our intention that graduate students would continue to come to Pere. Joan Schall certainly wants to return. Rick Shoup says he would like to return. We told them we had been doing a lot of thinking about the project that was started by Margaret and whether it would continue.

It has worked out that Frank Johnston, who is the chairman of the department of anthropology at the University of Pennsylvania, became interested in Pere in the course of Joan Schall's research work in Pere for her dissertation, and in the course of my association with Joan and with the department. Also since 1975, I have been a research associate of the department, although not in residence. I have known many of the people in the department at Penn. Many of them are anthropologists whom I greatly admire. Frank and I have had common interests over the years. He has done his research in child growth and various aspects of child

development. Joan's study was partly child development and partly blood pressure of all ages.

Joan investigated whether blood pressure went up among people like those of Pere who moved into more urban communities. It does go up. In short, the kind of research that Joan does and the kind of research that Frank's interested in are distinctly compatible with my own interests.

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Hughes: Is cultural anthropology being continued in the village?

Roll: Yes, because Ted Schwartz has continued that. That is, Ted Schwartz represents the cultural anthropology aspects of study in the village.

The village is obviously very much concerned about public health, about malaria control, about how to protect its children from illnesses, which brings us to a dilemma in investigations that anthropologists do. We don't want to merely gather data and learn what's wrong; we'd like to be able to do something about it. So it looks as if by uniting the work that Joan has started under the supervision of Frank Johnston and the work of the New Guinea Institute of Medical Research, it may be possible to be useful as well as to collect interesting data.

The New Guinea Institute of Medical Research is subsidized by the Papua New Guinea government. I think it must have some collateral help from the Australians. Most of the research people at this institute are Australian and American. They are very much interested in the public health aspect of their work and are making a real effort at delivery of some health measures. So that is what we hope will come out of this reorientation of the project.

#### The Pere Village Data Base

Hughes: Do you want to talk about the data base that you're helping with?

Roll: Yes, sure. Because in connection with my original research interest in somatotypes I became intrigued with the genealogies of the people, I have put together an enormous amount of material that really is a data base identifying almost four thousand people. We know what their relationships are to each other. In

other words, what it adds up to is family trees for six generations--and in many cases eight generations.

I had always wanted to feed this material into a data base. I have wanted to be able to feed the information into a computer program that would not only enable me to retrieve it, but to relate each person to all the other people with whom he/she had biological relationships. We have the facts that make this possible. Margaret did a remarkable job of keeping track of everyone beginning in 1928. She made records of all the known relationships and roughed out the original genealogies. She also kept copious notes on a lot of the social arrangements and interrelationships as she went along. I have had that to build on.

I did all this without any particular eye to publication; it was just out of sheer interest, which in the end led to Stori Bilong Pere. Now, as a windup of all of my connections to the village, I would like to leave all the things I know in a state where other people can get at them, which is not easy.

Hughes: But very valuable.

Roll: Probably valuable. Yes, I must say that I am struck with the uniqueness of the kind of knowledge and the depth of it that we have gathered. The project in Pere village is now almost sixty-five years old, which is a long time.

Perhaps the most unusual aspect of it all is that we have a unique collection of somatotype data. There are photographs of all ages and both sexes, from 1953, 1966, 1968, 1971, 1975, and 1980, which is six different occasions. It's a shotgun kind of a collection because many times people are no longer in the village. Many of them have died. But it also reaches out to new generations, where in the 1980 series, we had great-grandchildren of people of whom we actually have photographs.

Hughes: Has anybody interpreted the changes, assuming that there are changes?

Roll: Well, the changes were not as great as you might think.

In short, what it looks like is that for the foreseeable future, there will be a close relationship between us and our friends and protegés as successors to Margaret, a relationship with the village, a friendly and participating relationship for the foreseeable future. That is what we are hoping for, and at the moment it looks encouraging.

Assessments

Hughes: Could you comment on the pluses and minuses of entering anthropology as an outsider?

Roll: In my own way, I regard them as all pluses. [laughs] There's nothing like viewing one's world from a nice, detached perch. My career in anthropology is not one that I would recommend because very few people are fortunate enough to be able to conduct such a career. I started late. I always had another occupation which financed me while I was pursuing my anthropological interests. Of course, for the first five years while I was learning all that I learned about anthropology and somatotyping, I was employed, and in that connection.

Since then, for the last thirty-five years, I've always been doing something else. For a long time I was fortunate enough to have grants. But it never has been a full-time career, which has great advantages. I'm not beholden to the whims and politics of academia. However, I think that for the majority of people going into anthropology or any other specialty it probably is wiser to follow the usual paths.

Hughes: You also chose a niche of physical anthropology where there were few others.

Roll: Something so esoteric that nobody else could be a specialist.

Hughes: To your credit, you took advantage of the advantage and pushed it to the limits.

Roll: Yes, but I didn't know that's what I was doing.

Hughes: Maybe that's where luck comes in.

Roll: My life has been so shot with luck that it's indescribable. I think what can be said is that it's very likely, if anyone is sufficiently interested in any subject to become really expert in it, there probably are worthwhile payoffs. I don't know that they are material, but I suppose they are moderately so.

As a matter of fact, there have been some payoffs. I haven't gone entirely unpaid for all this. I was paid for translating, from Russian, about three different monographs in anthropology. I got paid as a consultant in a lot of the somatotype work. I certainly wouldn't have been able to make a living at it, but I was paid, and paid adequately.



Hughes: You also picked the right husbands.

Roll: Yes, I picked the right husbands. [laughs] I think that's important.

Hughes: Well, it is, because certain husbands wouldn't have tolerated your having a career. You found that out with the first one.

Roll: I found that out with the first one. I certainly have had two husbands who not only tolerated it, but assisted and promoted and encouraged. That's extremely important--and lucky.

Hughes: Have you ever felt at a disadvantage for lacking a Ph.D.?

Roll: I don't think I have. I think that if I had been in a position of needing to be employed, it probably would have been a great disadvantage. I forgot to say I taught anthropology for pay for nine years, and I must have saved \$45,000 or so out of that. I never spent it; I just put it in savings. So it amounted to quite a substantial sum. I suppose if I added all of the money I had ever been paid in addition to what was going on because I had a husband, I acquired quite a lot. A nice little nest egg.

Hughes: In the course of your work, have you seen any changes in the way women regard their bodies?

Roll: A wonderful question. I hadn't ever thought about it. I don't think it has been work-connected, and I haven't paid a lot of attention to it. But yes, I think they probably pay much more attention, take much better care of their bodies and have more insights into the importance of exercise and the importance of balanced diet and health-promoting factors.

Hughes: What in your life has given you most pleasure?

Roll: That's a nice question. By and large, I certainly have found life pleasurable, I'll put it that way. I think that at least philosophically and to the degree to which I am able, I would put marriage first. I can't imagine a life having great richness without marriage. It's the kind of question I would want to write about rather than try to do off the top of my head.

There are so many levels of satisfaction and pleasure. I get enormous satisfaction and pleasure out of preparing food well. I get enormous pleasure out of harvesting tomatoes and getting them peeled and brought to a boil and put into the freezer. Tasks are to me a very great pleasure. I enjoy life. I'm not full of resentments of any kind. Well, I suppose that if I were to try to write it, I would put friendships after marriage. And I feel I've

been very fortunate in my friendships. It's an immensely creative aspect of life. Friendships don't come easily.

What one regards as the objectives in a life and the realizations that one's values are almost better than the pleasure. Pleasure is involved in it; satisfaction is involved in the aspects of life that one looks back upon with a pleasant feeling. It's a fascinating thing, and I don't think I've ever really sat down and thought about it. I've thought more about how much luck has to do with a good life. However, if you don't know what to take advantage of and what to sacrifice, what to give up, how to choose alternatives, luck doesn't do you any good.

What is it about luck and the prepared mind?

Hughes: Chance favors the prepared mind.

Roll: I think of it much more in the context of what you do when the right card turns up. How do you invest this bonanza?

Hughes: That's where it becomes more than luck.

Roll: It becomes more than luck, and usually there is some painful payment in the alternative that you rejected. Somebody usually gets pinched as you pursue a lucky move. To choose something means that you're not doing something else, and it may be something that you either feel that you should be doing, or you're not sure that you want to give it up.

Hughes: Or it's just easier to stay status quo and not take the adventure of the unknown.

Roll: I think that's what happens to many people.

Hughes: One thing that I think comes through very clearly is the balance in your life. You find pleasure and accomplishment and satisfaction in many different endeavors.

Roll: Almost anything, however trivial it is, that you feel you've done pretty well, is an enormous satisfaction and gives pleasure. I cannot imagine not having the imagination, the capacity for aesthetic appreciation, and the discipline it takes to have the surroundings that please, as well as what's going on in my head and making a contribution that has nothing to do with this. I think it has to do with self-discipline. I also think it has to do with passion, a passion for making one's environment beautiful. That's not a trivial thing. It has something very important to do with why so many people we know reach an age fifteen years younger than I am now, and flee to these protected environments, which

seems to me like a terrible cop-out. I also--and this comes back to marriage--am by no means sure that under any circumstances it would be worth the candle to try to achieve [a full life] on one's own. I think that would be pretty sterile.

Hughes: Some are only achievers in a very narrow field.

Roll: I think that having scope is very important. Well, it certainly is important for the fun of life.

Hughes: The reverse of this question is, what has given you the most pain?

Roll: [laughs] That's particularly difficult for me to deal with, because oddly enough, I think I settle the score with pain long before I ever get it out in the open. It is no longer a pain; it is a healed scar by that time.

The only example I can give is when I left Hal, I did not talk to anybody. I didn't say, "Look, this is what I'm thinking of doing. What do you think?" or "I'm upset." The only people who knew anything about it were Hal's parents and my parents. Oh, my brother and Hal's sister, but that was it.

Henry Dixon, who was a psychiatrist with whom I had worked for fourteen years and who was a very good friend as well, and my internist, Roger Keane, who also was a very good friend and regarded himself as one of my intimates, were furious and resentful when I left without consulting them. I didn't want to argue with anyone. I knew what I was going to do, and once I had decided, there was no undeciding.

I am sure that the road to the decision was extremely painful, but by the time I had made it, the scar was healing. I never have tried to express this before in just this context, but I think it may be important and I think it may describe a very great difference among temperaments.

###

I've been conscious most of my adult life of a disinclination to go and ask for advice. I don't think I've ever done it. I don't remember ever asking anybody what they thought I ought to do.

I have winced at what I was confronted with, but I've never felt sorry for myself; I guess that's what the real answer is. For example, right after Scott died, Bill Stewart came over one afternoon and asked how I was. I was fine. He said, "You know, you are alone now for a lot of the time." I said, "Yes." He

said, "I don't think you're ever lonely, are you?" I said, "No, I guess I'm not." And I never have been. I wasn't in despair. I didn't go around flinging myself on the nearest pillow and bewailing my fate. I thought, "This is very unpleasant, but there isn't much I can do about it." I've always felt that the only thing to do is to accept the inevitable once it's there.

Hughes: Accept and carry on, I may add.

Roll: Oh, well, that, yes. Those two are alter egos. Accept, and then having accepted it, do whatever it is that seems to be the intelligent thing to do.

Hughes: My last question is, what do you consider to be your greatest contribution?

Roll: Obviously, the one continuous project I have had has been working out the methodology of somatotyping. Whether it's important or not, I would punctuate with a very large question mark. I certainly do not think the world would be impoverished by its absence.

I take a good deal of pleasure in knowing that I'm not just saying that out of modesty, not at all. I have very little of that if I think anything's any good. I think it's a terribly important self-insight, and the minute you begin to think you're important, you're in trouble.

Hughes: On the other hand, I would suspect that there's considerable satisfaction in having set yourself a task and now finding it, maybe not completed, but at least it's a unit with shape and meaning.

Roll: Nothing's ever complete, but at least I have brought it to closure. There is, of course, great satisfaction in that. It's always a nice thing to have initiated any kind of a project and to have completed it, no matter how small it is.

I would put the somatotype project at the head of the list, merely because it's the largest project I ever tackled. But even more than all of that, I am still awed by all the luck attached to it. If the somatotype book had gone on to be published by McGraw-Hill or some other publisher, I would have been pleased. But that would have been nothing like having Cambridge Press do it. And that was due to the luck of becoming a friend of Derek Roberts. I'm not saying that I didn't deserve to be a friend of Derek's. I see no reason why he shouldn't have seen the value of Lindsay's and my manuscript. Nevertheless, there was a lot of luck in

meeting him and our enjoying the exchange of ideas about a common interest.

I think I get the greatest delight out of the random, improbable ingredients that have made the total. For example, think of the great good fortune of having Lindsay come into my life. And I damn near threw him out without ever meeting him.

Hughes: Maybe that's a good place to stop. Thank you.

Roll: I think that's a good place to stop.



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## APPENDICES--Barbara Honeyman Heath Roll

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Barbara Honeyman Roll

"What happens next door?" I tilted my head back towards the cream-painted breeze-block wall of the secretary's office behind me. The question was not addressed to any one in particular.

"Next door? Now you really are asking," said the tall lean Associate Professor of Applied Physiology and smiled.

But first let me set the scene. The year was 1950. I was aged 30 and had been in the United States for the first time in my life for two whole days.

"What were you doing exactly?" you might ask, and to some extent so might I too.

I was the holder of a Rockefeller Travelling Fellowship of which four were awarded in the United Kingdom annually in open competition by the British Medical Research Council (M.R.C.). You were required to think up a good research project, decide where and in whose department in the United States you wanted to do it, get their agreement for you to work there and then submit your application to the M.R.C. stating in detail what you wanted to do, how you intended to do it and what you hoped to achieve. I have no idea how many applications were submitted, but the selection committee in London honed them down to a short-list and then interviewed the various candidates, finally selecting four. That year I was one of the lucky ones. (I suppose it reflects some misplaced modesty or lack of reality that makes Britishers use the word "lucky" in this context; in the United States you are more forthright and concede without conceit that it was hard

work or a bright idea that brought the award.)

The four of us, each going to a different centre in the States, crossed the Atlantic together, cabin class, in the Queen Mary. The flamboyant menu, listing twenty-four different cheeses, was shock enough for anyone leaving Britain where we still had meat rationing. In America we set to work on a salary of \$5,000 per annum and no doubt the Rockefeller Foundation also paid a bench fee to the departments in which we worked - in my case the Department of Medicine at the Columbia Presbyterian Medical Centre on 168th Street, New York City.

On Day Two I was installed in my spacious laboratory on the eighth floor of the Medical School. It was four-times the size of the broom closet I had had at the Royal Postgraduate Medical School in London. Quietly I set about begging, stealing, borrowing or ordering the equipment I needed. My immediate neighbours were experienced natives - part-time clinicians, part-time research workers with such titles as Associate or Assistant Professor of Applied Physiology, of Nephrology or of Infectious Diseases.

At ten o'clock I was invited to have coffee with my immediate colleagues in the secretary's office and was being given a run-down on what went on in the laboratories on the other side of the hall.

Hence my question, "What happens next door?"

"Next door," continued the lean tall Associate Professor of Applied Physiology, "is where William Sheldon works."

There was something in the tone of his voice that made me feel I should know who William Sheldon was, but I didn't.

"What does he do?" I persisted.

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"Well, now you're asking," repeated the tall lean man. "He is the somatotypist."

"The somato- what?" I asked.

The applied physiologist explained slowly and carefully. Twenty minutes later my knowledge and vocabulary had been increased. I had some idea of what ectomorphy, mesomorphy and endomorphy were and how they were quantified.

"Something after the style of Kretschmer?" I suggested.

"Who?"

"Kretschmer."

"Never heard of him."

"The German psychiatrist. He correlated body types and personality characteristics. He suggested, I think, that certain types of psychiatric disease occur more commonly in people with certain physical characteristics."

"Well, Sheldon is on to the same sort of thing -- the correlation between the somatotype and the liability to certain physical or psychiatric diseases, even delinquency."

"There must be something in it," I said. "After all dogs are one species but if you had any sense you would choose a grey-hound to run fast and a Husky to pull a sled to the North Pole; not the other way round. Sure I can believe that certain diseases occur more commonly in people with one sort of physique than another."

Everyone spoke together in the ensuing animated discussion.

"I'm almost a pure ectomorph," said the tall lean man proudly.

"I'm such a good example that I have been photographed for their

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Somatotype Atlas. Sheldon says I have the same physique as Christ." The applied physiologist sounded proud.

"As depicted by El Greco, I suppose! What does it involve, being somatotyped?" I asked.

"You stand on a special turn-table and photos are taken from a specified distance and at specified angles of rotation. You are stark naked and the pictures are mostly taken by Sheldon's female assistant."

"That's the pretty, the vivacious girl I've seen coming out of his office?" I asked.

Here I must pause to explain that Englishmen are not being patronising or paternalistic when they refer to a woman as a girl. Without taking any offence, women in my country -- even ardent feminists -- seem happy to be called a girl at least until their mid-fifties.

"Yes, that is Barbara Honeyman."

"I like her," I said. "She's bright."

"How do you know that?" asked the applied physiologist. He sounded displeased.

"Just by the look of her, the expression on her face, the way she moves, the way she holds her head. For God's sake, I don't know how I know she's bright but I'm certain she is. From her somatotype perhaps?" I laughed.

\* \* \*

During that year I did not see a great deal of William Sheldon or of

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Barbara Honeyman, certainly not as much as I would have liked. Both of them went away a good deal -- working for several weeks, I remember on one occasion, in Chicago.

Sheldon was not easy to get to know. To me, and through the light mist of time I may still be misjudging him, he seemed rather withdrawn, on the defensive and secretly arrogant. Perhaps he lacked a sense of humour or the blessed gift of being able to laugh at himself. I formed the impression that he felt, with some justification, that the Head of the Department of Medicine and the rest of the staff looked upon his work as a "soft" science. This made him even more defensive and isolated. He had little warmth to his personality and if alone in his office I did not drop in to say "Hallo" because I was not made to feel particularly welcome. With hindsight I wonder if he were not clinically a little depressed. He did not seem to be a man who made friends easily.

This was in marked contrast to Barbara Honeyman. She scintillated with new, original ideas and with enthusiasm. She was straining at the leach to push the frontiers of her work forward but did I detect that she felt restricted and constrained by Sheldon? I did not seek to test her loyalties by asking outright whether or not this was the case but I suspect it was.

\* \* \*

You will agree that those millisecond first impressions I formed of Barbara Honeyman were right. I have never doubted it when over the

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years we have met again in London on her fleeting, too infrequent visits to or from Russia, Europe, Papua New Guinea or just the British Isles. Those impressions have been amply confirmed by her work over the last forty years since first we met and by the special recognition recently awarded her by Smith College. In those forty years she has shown that somatotyping is not a "soft" science but done properly there is a high degree of correlation between different skilled observers. She has lost not one iota of her enthusiasm, of her extraordinary vision, of her wide-ranging biological and anthropological interests nor of that essential characteristic -- the ability to finish a piece of work. This is not to suggest that she thinks any of her work is ever "finished"; it has simply reached a stage when the results have to be recorded for the help and the guidance of posterity and for her own self-discipline.

London, England, April 1990

Richard I.S.Bayliss



CURRICULUM VITAE

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4 April 1910

- 1932: B. A. Smith College, Northampton, Massachusetts  
1953-54: Graduate study, New York University, New York City  
1948-51: Research associate and executive director, Constitution Laboratory, Columbia Medical Center, New York City  
1951-53: Research associate at University of Oregon Medical School, Portland, Oregon. (Somatotype research project financed by Rockefeller Foundation grant.)  
1954-56: Somatotype consultant to Institute of Child Welfare, University of California, Berkeley (Director, Dr. Harold Jones)  
1954-60: Somatotype consultant Institute of Child Health, London, England  
1957-68: Somatotype consultant to Medford Growth Study (Director, Professor H. Harrison Clarke, School of Health, Physical Education and Recreation, University of Oregon, Eugene, Oregon.)  
1965-68: Somatotype consultant to Department of Health, Physical Education and Recreation, San Diego State College (now University), in NIH study of exercise-induced changes in middle-aged males.  
1966-75: Somatotype consultant to Dr. Margaret Mead on American Museum of Natural History/New Guinea Admiralty Islands Expedition, on Manus Island.  
1966-74: Instructor in anthropology, Monterey Peninsula College, Monterey, California  
1967: Visiting scholar at Institute of Anthropology, Moscow State University, Moscow, USSR  
1975-: Research associate, Department of Anthropology, University of Pennsylvania, Philadelphia, Pennsylvania

Honors

- 1965 Fellow of the American Anthropological Association  
1969 Fellow of the American Association for the Advancement of Science

- 1971 Fellow of the Society for the Study of Human Biology
- 1987 Fellow of the New York Academy of Sciences
- 1989 Honorary Doctor of Humane Letters, Smith College
- 1989 In the Spirit of Margaret Mead Award (jointly with Fred Roll),  
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#### Professional affiliations

American Anthropological Association  
American Association of Physical Anthropologists  
International Association of Human Biologists

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